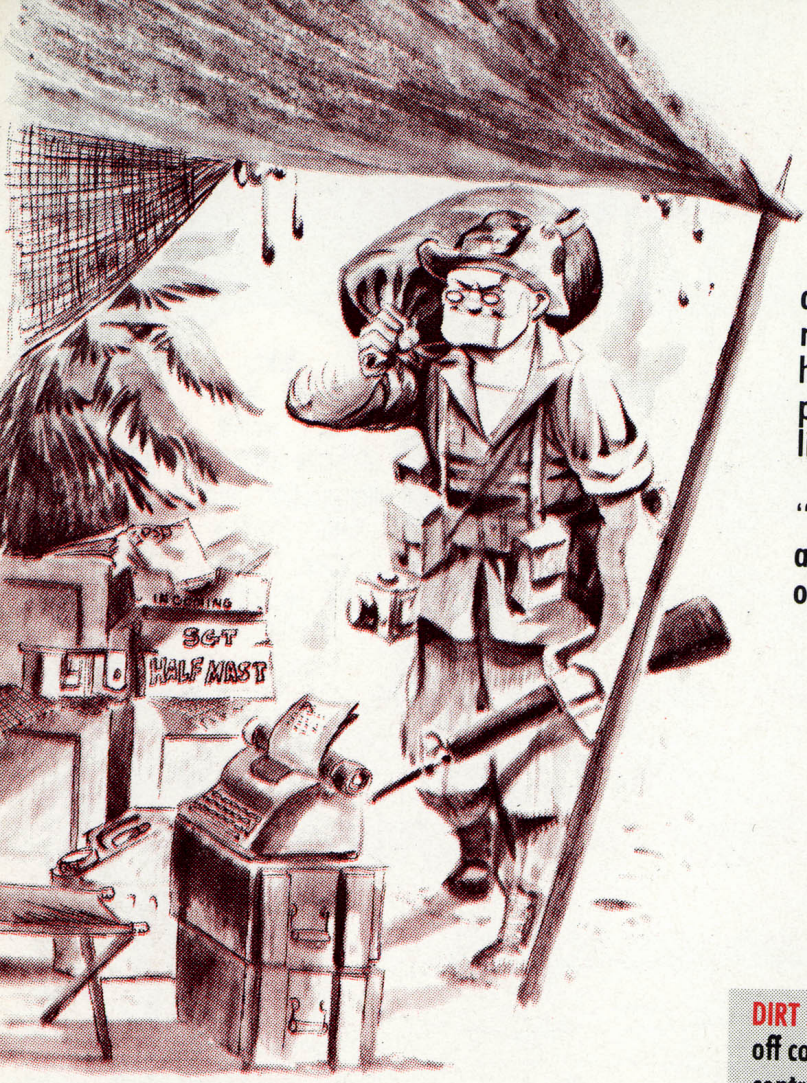
Issue 203
PS
1969 Series
THE PREVENTIVE MAINTENANCE MONTHLY
...ER, SIR... AH, ER... HOW SOON DO YOU REALLY NEED THE DATA ON THE FIRE MISSION Y' JUST GAVE US?
TM9-1711
Will Eisner

This Outfit

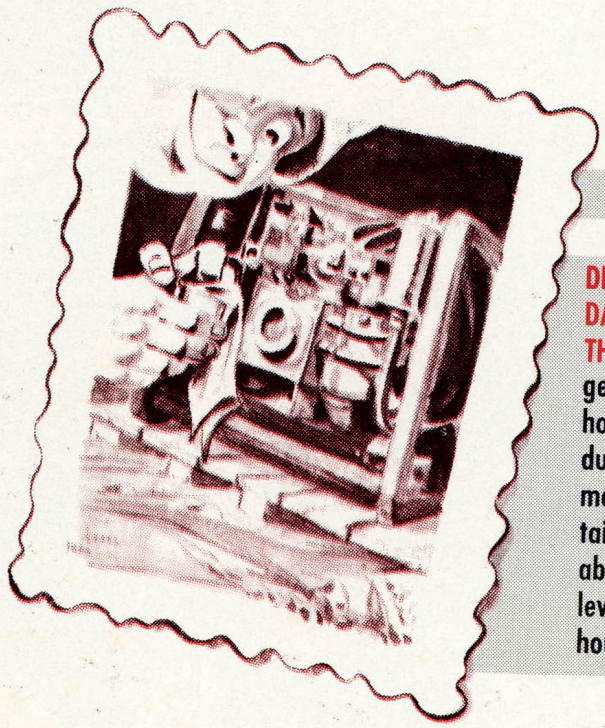


Half-Mast just got back from dropping in on a lot of outfits in Southeast Asia. And did he run into power generator problems! Every unit he jawed with had generator maintenance problems out the gazoo . . . until he got to one little ol' towed 105-MM howitzer battery.

"Generator problems?" the Man said. "None here. You see, we do PM on our generators like this and haven't had a generator go out in the 8 months I've been here."

FULL-TIME OPERATOR . . . that's all he does.

DIRT . . . keep it cleaned off constantly. Blow out control box with compressed air to prevent build-up that catches moisture and sets up a short.

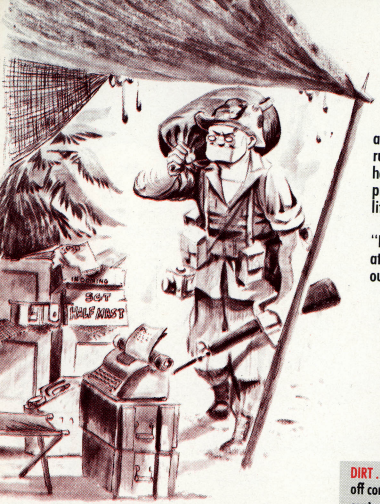


STRAIN FUEL.

DRAIN SEDIMENT BOWL DAILY. CHANGE OIL PER THE LO . . . on the small generators that's 25 hours when in the real dusty dry season. And make sure all oil containers and utensils are absolutely clean. Oil level is checked every 5 hours.

GROUND ROD DOWN DEEP . . . at least 9 feet long and all connections kept tight.

This Outfit Maintains 'Em!



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KEEP 'EM COOL . . . allow plenty of air space between sets and sand bags.

ALTERNATE GENERATORS . . . to spread the load and allow time for PM.

Maybe that list will give some other units an idea . . . or two.

PS

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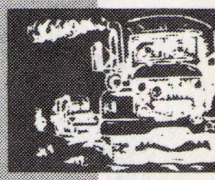

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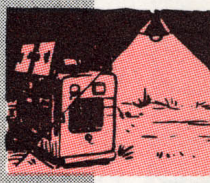

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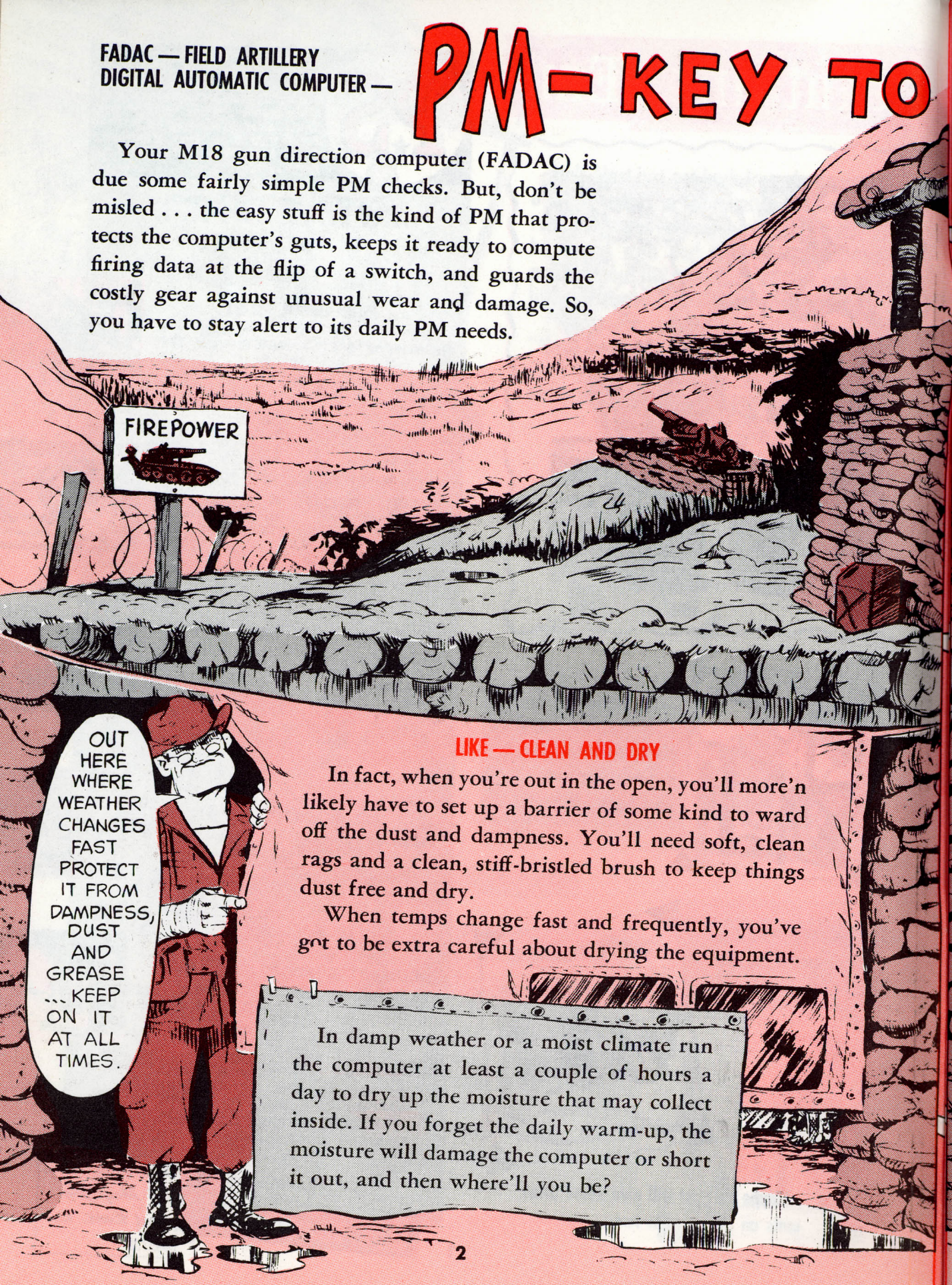
FADAC — FIELD ARTILLERY DIGITAL AUTOMATIC COMPUTER —

PM - KEY TO

Your M18 gun direction computer (FADAC) is due some fairly simple PM checks. But, don't be misled . . . the easy stuff is the kind of PM that protects the computer's guts, keeps it ready to compute firing data at the flip of a switch, and guards the costly gear against unusual wear and damage. So, you have to stay alert to its daily PM needs.



LIKE — CLEAN AND DRY

In fact, when you're out in the open, you'll more'n likely have to set up a barrier of some kind to ward off the dust and dampness. You'll need soft, clean rags and a clean, stiff-bristled brush to keep things dust free and dry.

When temps change fast and frequently, you've got to be extra careful about drying the equipment.

In damp weather or a moist climate run the computer at least a couple of hours a day to dry up the moisture that may collect inside. If you forget the daily warm-up, the moisture will damage the computer or short it out, and then where'll you be?

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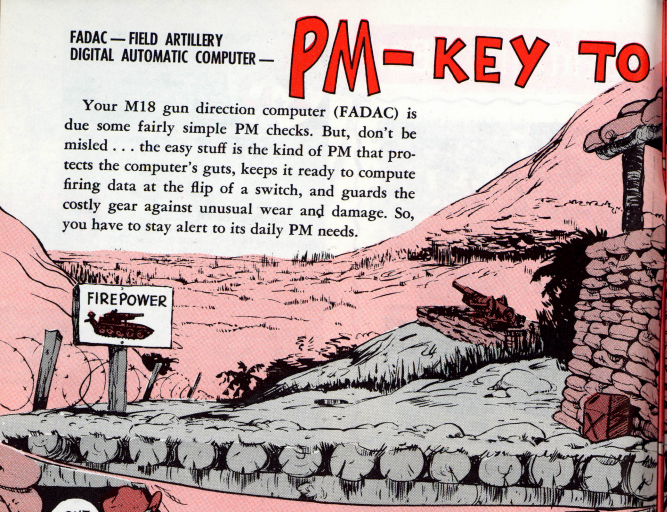

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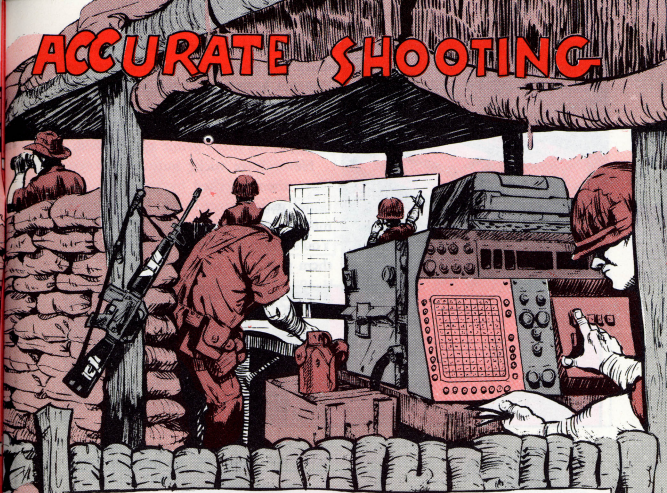
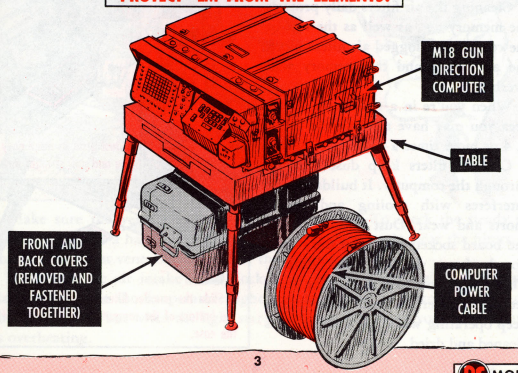
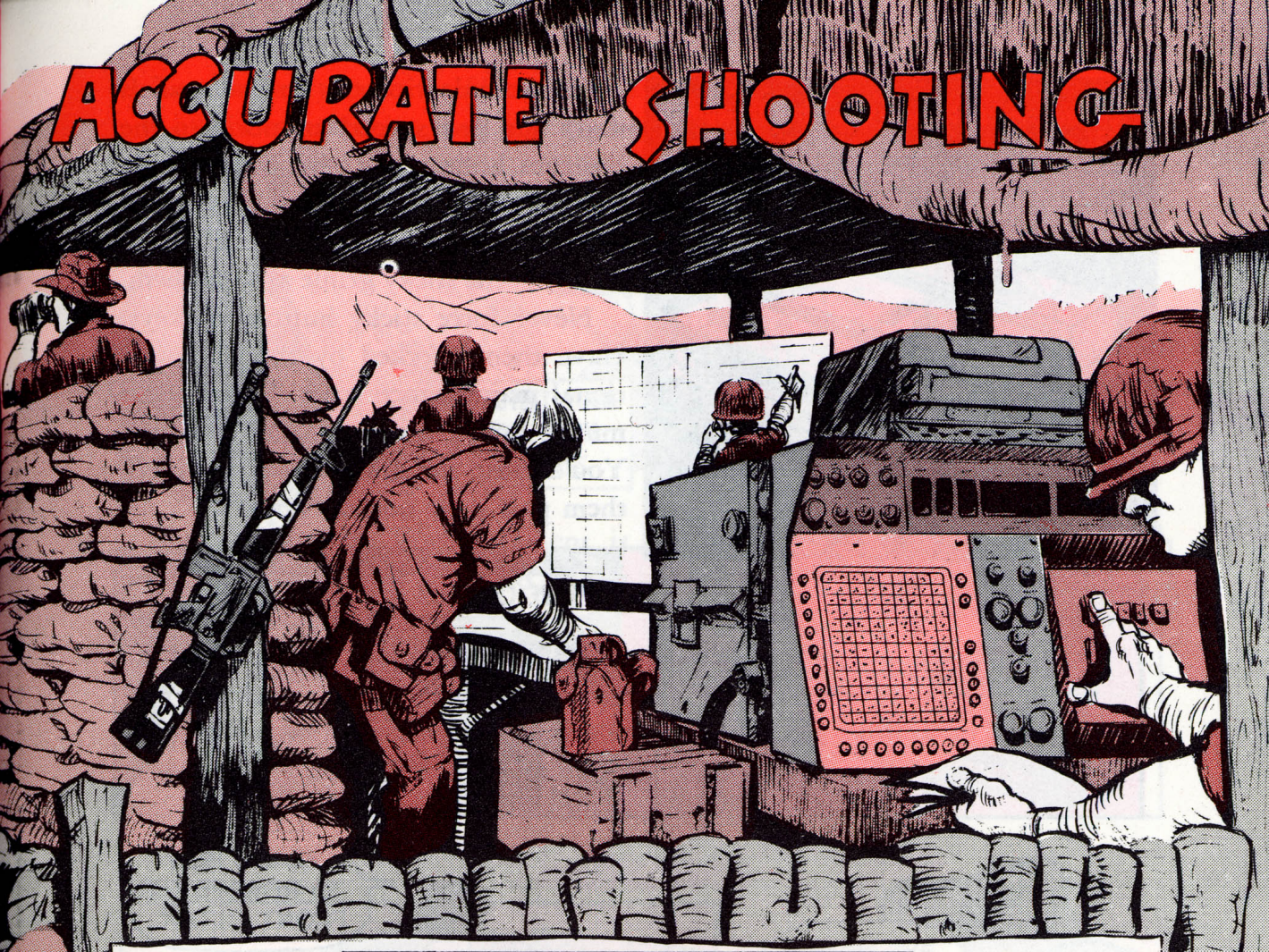


PROTECT 'EM FROM THE ELEMENTS!



P.S. MORE

ACCURATE SHOOTING



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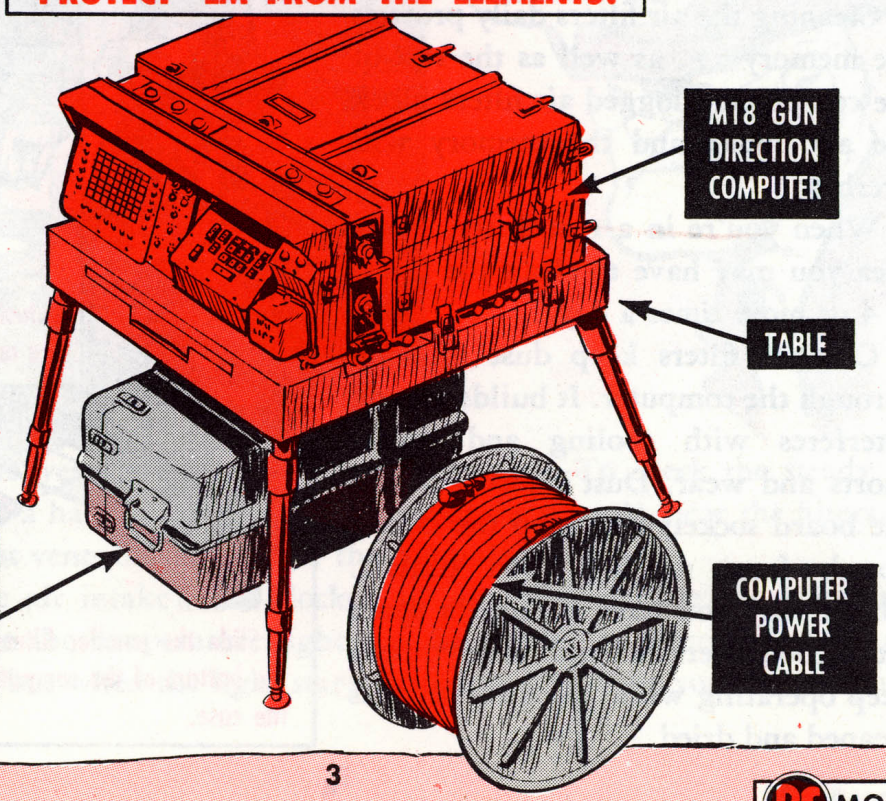
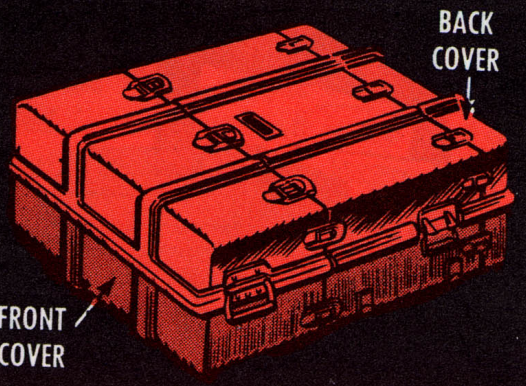


P.S MORE

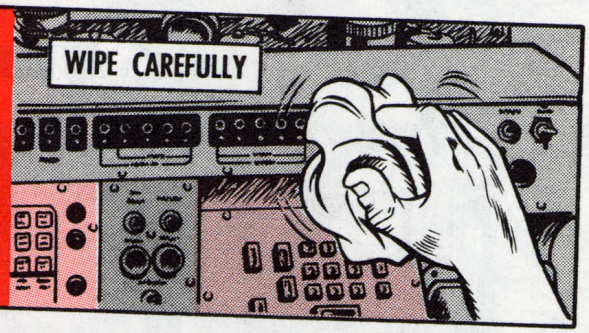
Always keep the covers on when the computer's not in use. Never use the tape-reader housing for a pull or lift.



Brush and wipe the console panels daily and pay special attention to the switches, buttons and keys. If the matrix buttons stick or bind, clean them good and then give them a dab of alcohol to clean out the sticky grime around them.

Never force sticky buttons or keys. Have them checked by the organizational maintenance types. Watch your muscle power on knobs and switches. You'll bust 'em for sure if you force them past their normal stops.

Wipe the windows and read-out display with soft, lint-free cloth — but, never use any kind of cleaner (liquid, paste or abrasive) on them.

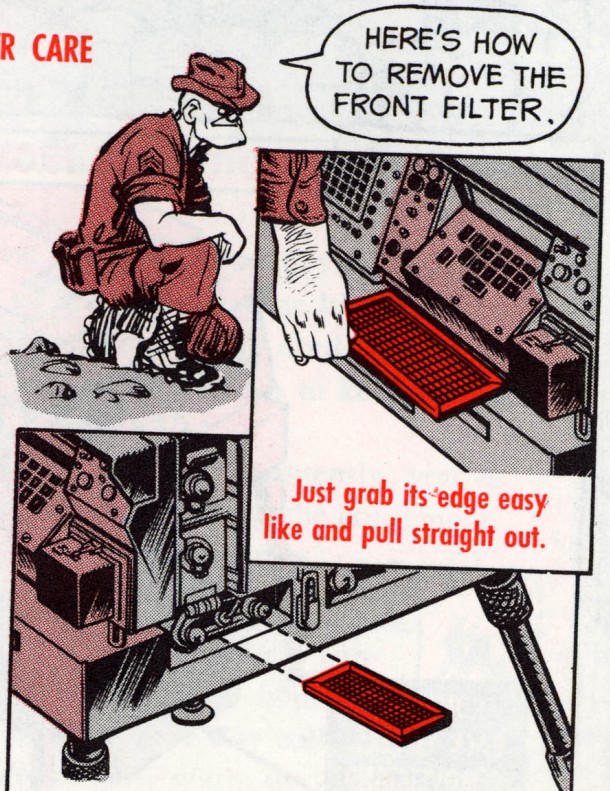


FILTER CARE

Cleaning the air filters daily protects the memory . . . as well as the rest of the computer. Clogged air filters block the air intake and the memory will overheat.

When you're in a real dusty, sandy area you may have to clean the filters 3, 4 or more times a day.

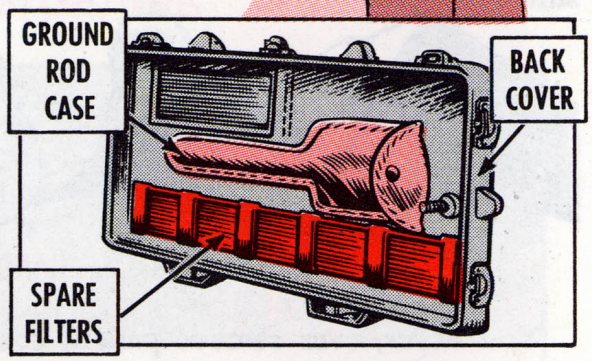
Clogged filters keep dust blowing through the computer. It builds up and interferes with cooling and causes shorts and wear. Dust'll also get into the board sockets and keep the circuit boards from making good contact. That's why you have to keep a spare set of good filters on hand . . . so you can keep operating while the dirty set gets cleaned and dried.



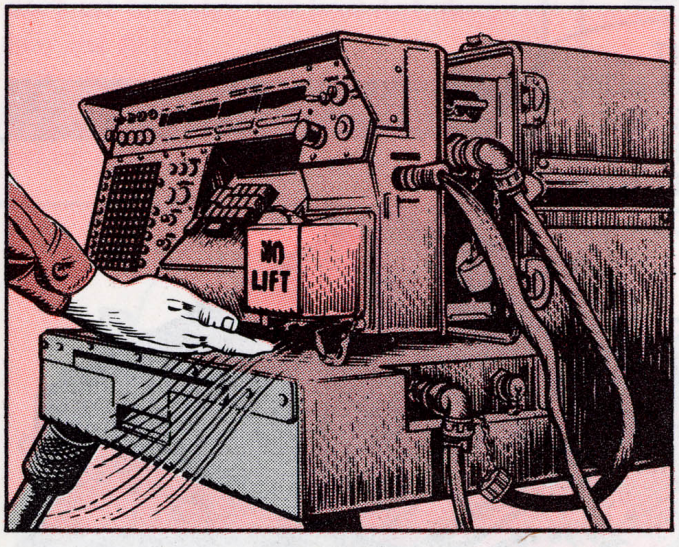
You an easily clean the filters by swishing them around in clean, soapy water . . . but be sure they're good and dry before you use them.

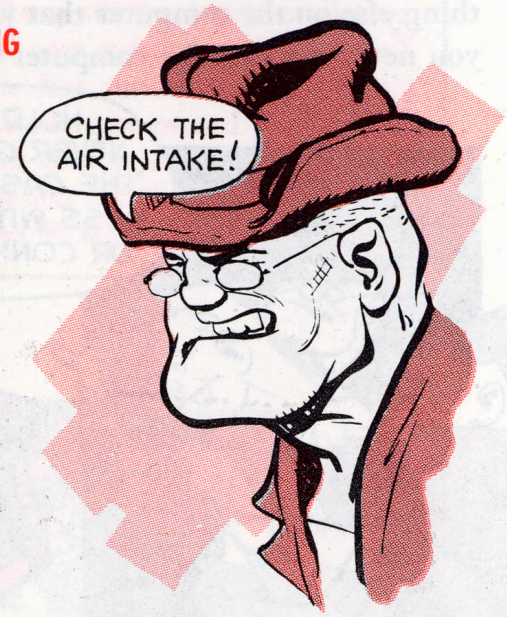
Replace a filter if the element is crushed or the filter's damaged in any way.

The extra set of filters is stored inside the computer's back cover. When you remove the back cover fasten it to the front cover . . . that'll box in the filters and also keep both covers clean inside.



AIR CONDITIONING





Make sure the ventilation blowers keep working. To check the steady air intake, just place a hand under the front edge of the console, near the filters, or check the exhaust vents on the back of the computer case.

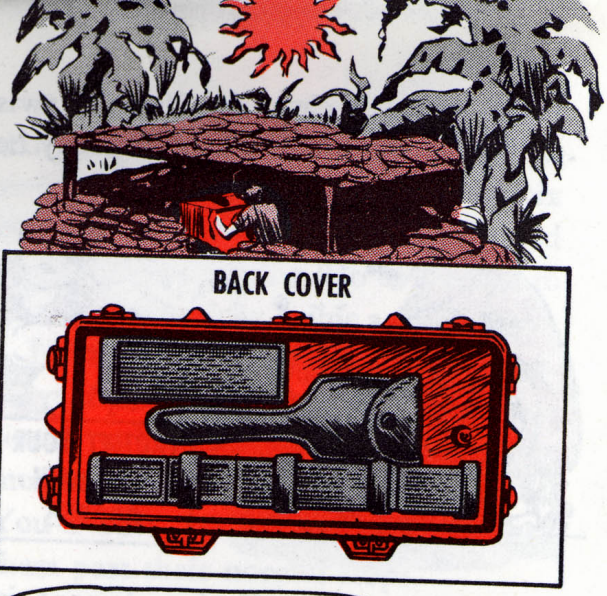
Take care the air intake's not blocked by anything outside the computer. Remember, when the temperature light (on the trouble indicator panel) is on, the temp is OK, but when the light starts blinking it's telling you the computer is overheating.

P.S MORE

You always remove the back cover when you're operating the computer... except when the temperature is 22° F., or colder — then the cover stays on.

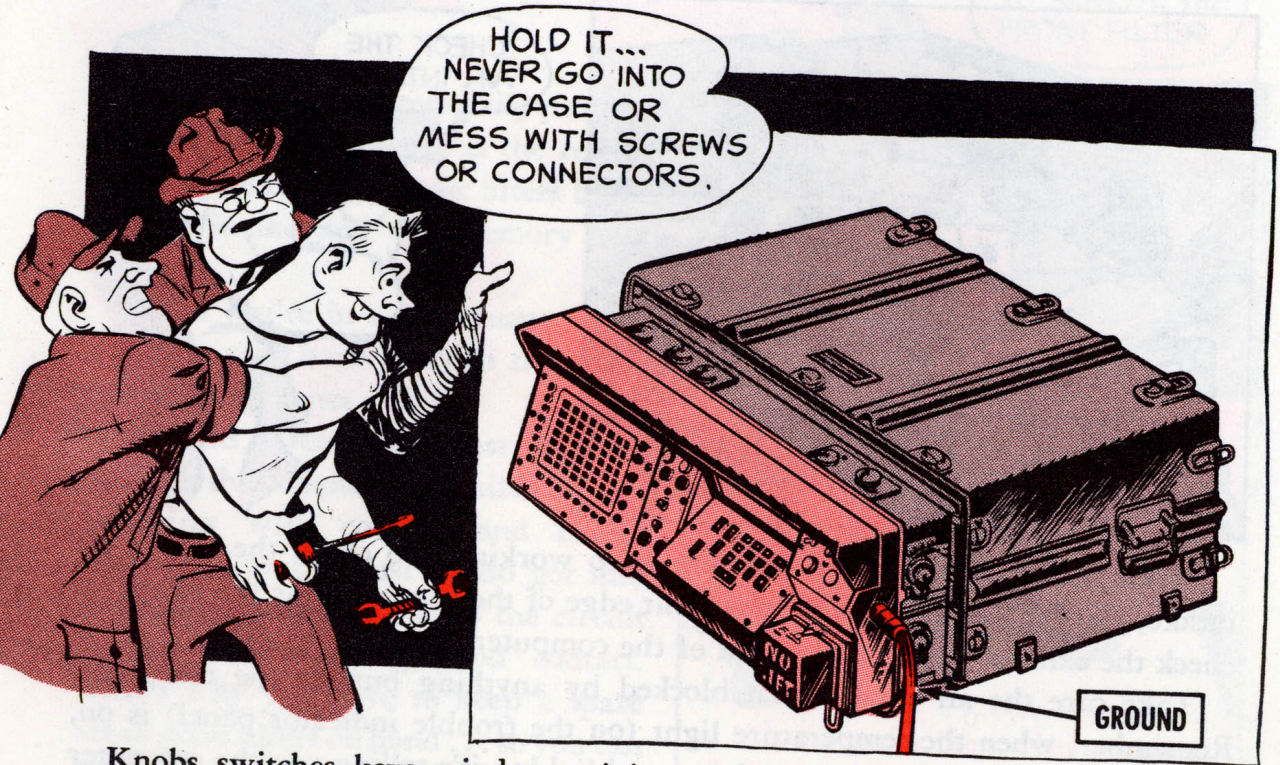
With the back cover removed the blowers will pull cool air right through the computer.

The hot sun will increase the computer's heating problems and it can hurt the memory, so always shade the computer from the direct blast of the sun.



HANDS OFF

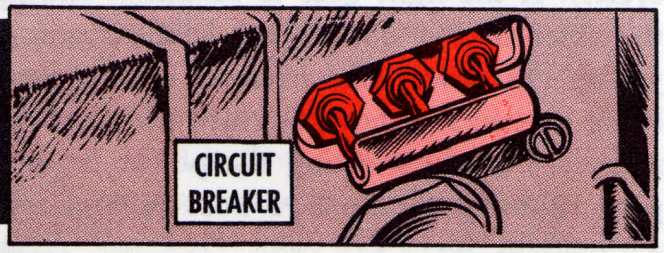
You never, ever remove panels, connectors, fasteners, screws, bolts or anything else on the computer that you're not authorized to monkey with. Likewise, you never get into the computer case.



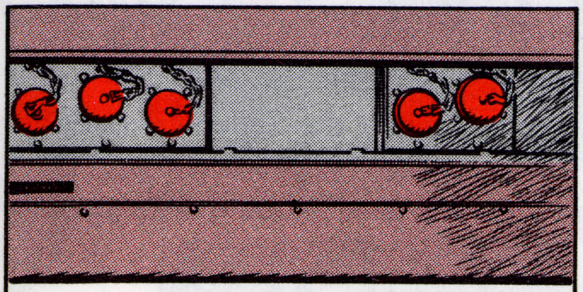
Knobs, switches, keys, windows, nixies, panels and assemblies, connectors, receptacles, etc., are tested, repaired and replaced by your organizational mechanics.

You're authorized to change indicator lamps on the control panel, though, so keep an eye out for burned-out bulbs and put in good ones. To swap lamps, unscrew the lens from the panel carefully, pull out the bad lamp, slip a good one into the lens, and screw the lens back into the panel easy like.

Before you remove the power cable or pull any PM checks on the computer be sure the computer's circuit breaker switch is OFF.

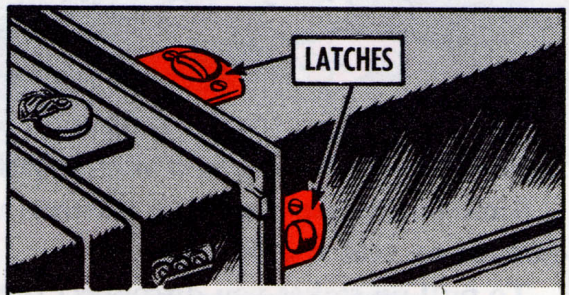


LATCHES/CONNECTORS/ CAPS/CABLES



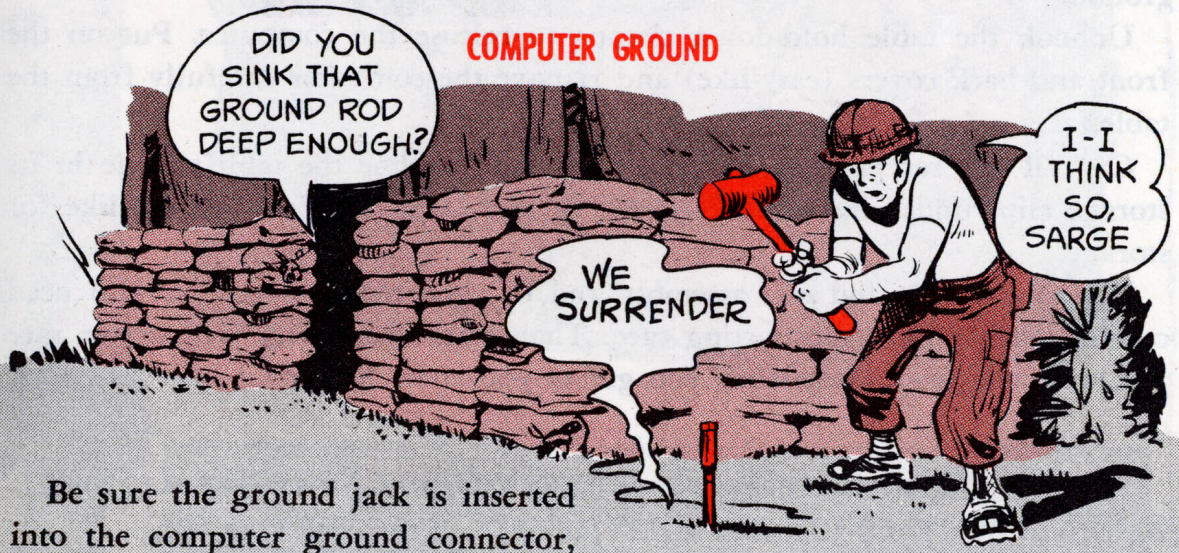
Keep caps on all cable connectors you don't use to protect 'em from dust, dampness and damage.

Brush or clean the connectors, receptacles and caps as needed and keep the cables from getting kinked or crushed.



Take it easy with the computer case latches. Snap 'em open and shut carefully or you'll bust 'em. Keep them fastened down right when the covers are on, and press the latch catch back out of the way when the covers are off. Same goes with the computer hold-down clamps on the table.

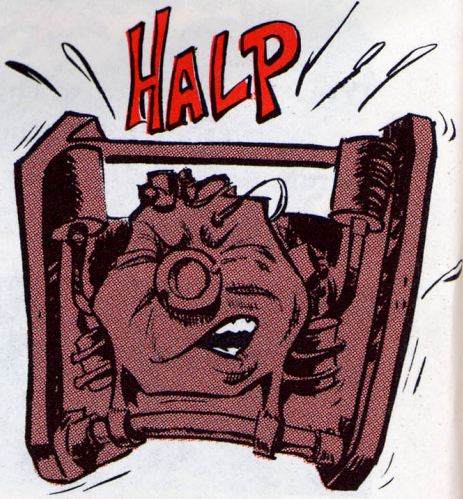
COMPUTER GROUND



Be sure the ground jack is inserted into the computer ground connector, and drive the ground-strap rod into the ground under, or near, the table.

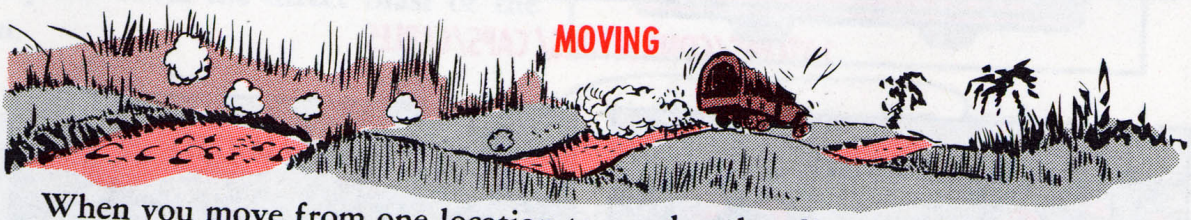
PS MORE

GENERATOR POWER



The transient light on the trouble indicator panel stays on when the generator is working right and the power output is right (208 volts, 3-phase at 400 cycles). If the light goes to blinking, and pressing the reset button doesn't check the flashing, then you've got power line troubles or the computer's being robbed somehow. So, turn the computer OFF and start troubleshooting the power hook-up. See page 12, for generator care, hook-up and operation.

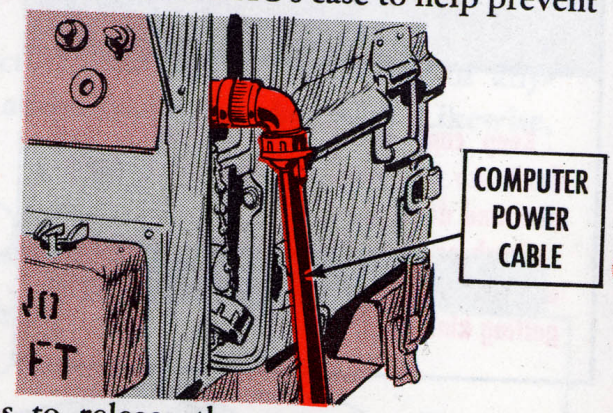
MOVING



When you move from one location to another, handle the computer carefully. And, if you're moving in a vehicle lash the computer case down real good.

Some outfits use a salvage mattress under their FADAC's case to help prevent damage on real rough roads.

To pull up stakes you disconnect the power cable from the generator and from the computer. Wind the cable on its reel and replace all caps on the connectors and receptacles.



Disconnect the table's cable from the computer and pull out the computer's ground.

Unhook the table hold-down clamps to release the computer. Put on the front and back covers (easy-like) and remove the computer carefully from the table.

Cap all the receptacles and connectors and anchor the table's cable in its storage clips under the table. Retract the table legs and fold 'em up like for storage.

The table, cable and reel assembly and the generator, of course, also need careful loading and transporting care. That way, everything will arrive safe and ready to go to work when you get to your new location.

PUBS

Your FADAC's covered by TM 9-1220-221-10 (Sep 64), TM 9-1220-221-20/1 (Nov 65), TM 9-1220-221-20/2 (Jan 64) and the -20P (Jan 69).

FM 6-3-1 (Jun 68) and FM 6-3-2 (Oct 67) give you the scoop on operating the computer.

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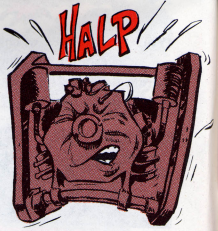

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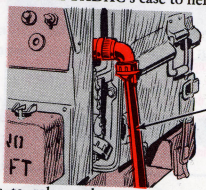

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NIXIE TESTING MADE EASY

FADAC

FACT FINDING

Hey, you FADAC flashes, got the word yet on the new, automated way to make computer nixie tests on the latest kit FSN 1290-809-1102 cannon program tapes?

And how you can double-check your computer tape reader by testing it with the FSN 1220-179-6122 mechanical reader diagnostic routine with cannon and rocket program tapes?

On the double you'll see a display of all the numbers, "0" thru "9", the decimal (.) points — all 16 of 'em — and the plus (+) and minus (−) signs. Testing ends when all of the figures have been displayed. Takes about 15 seconds or so. It's that simple!

P.S. MORE

NIXIE TESTING MADE EASY

FADAC

FACT FINDING

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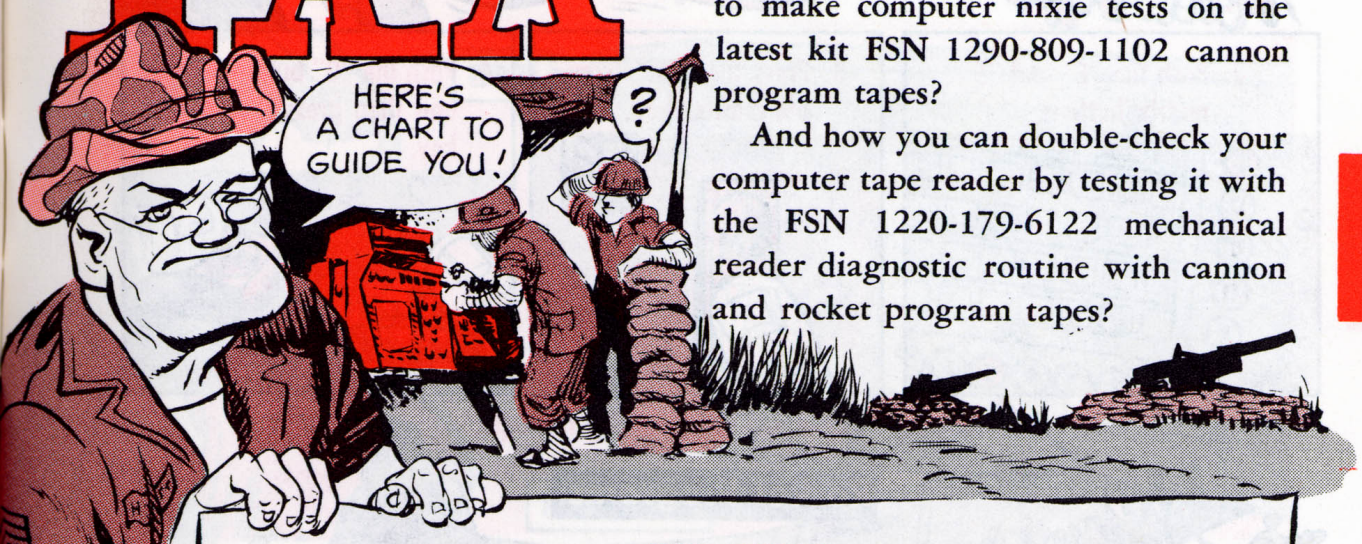
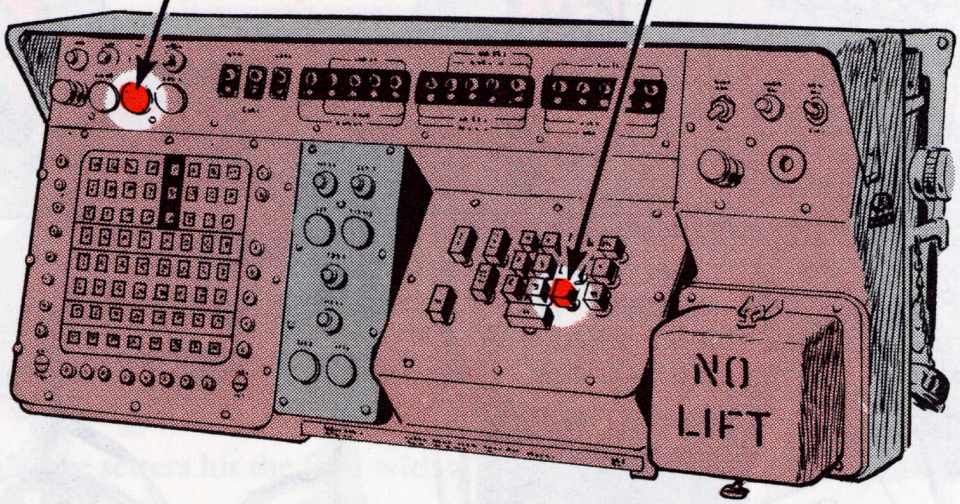


NIXIE TESTING

1. Press the PROG TEST button . . . and the keyboard IN/OUT lamp goes on.

2. Push the "3" button . . . and the automatic testing of nixies begins.



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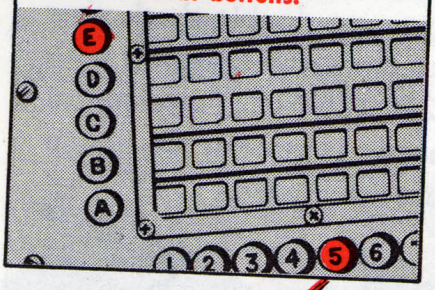
P.S. MORE

CHECKING THE TAPE READER

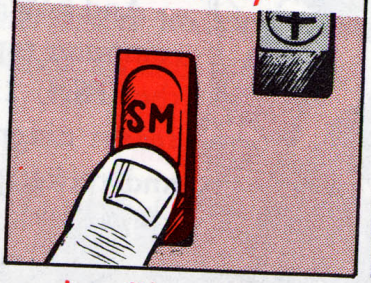
Cannon Programs:

1. Put the tape in the reader.

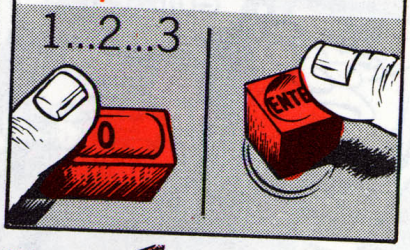
2. Push the "E" and "5" matrix buttons.



3. Press the "SM" (sample matrix) key.



4. Push the "0" button 3 times and then press the "Enter" key.

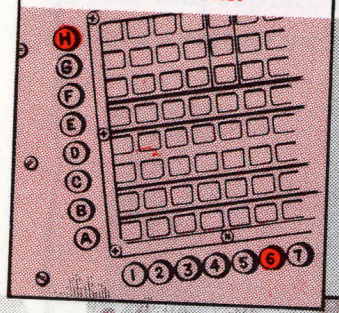


The tape reader will start reading the tape.

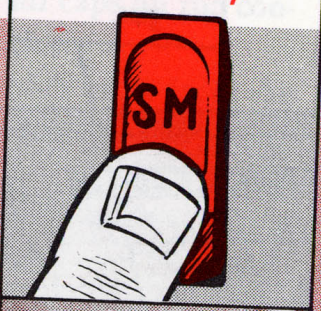
Rocket Programs:

1. Put the tape in the reader.

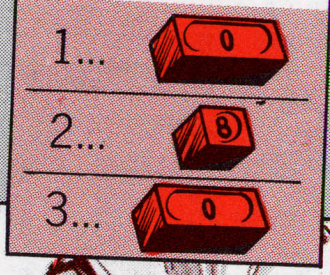
2. Push the "H" and "6" matrix buttons.



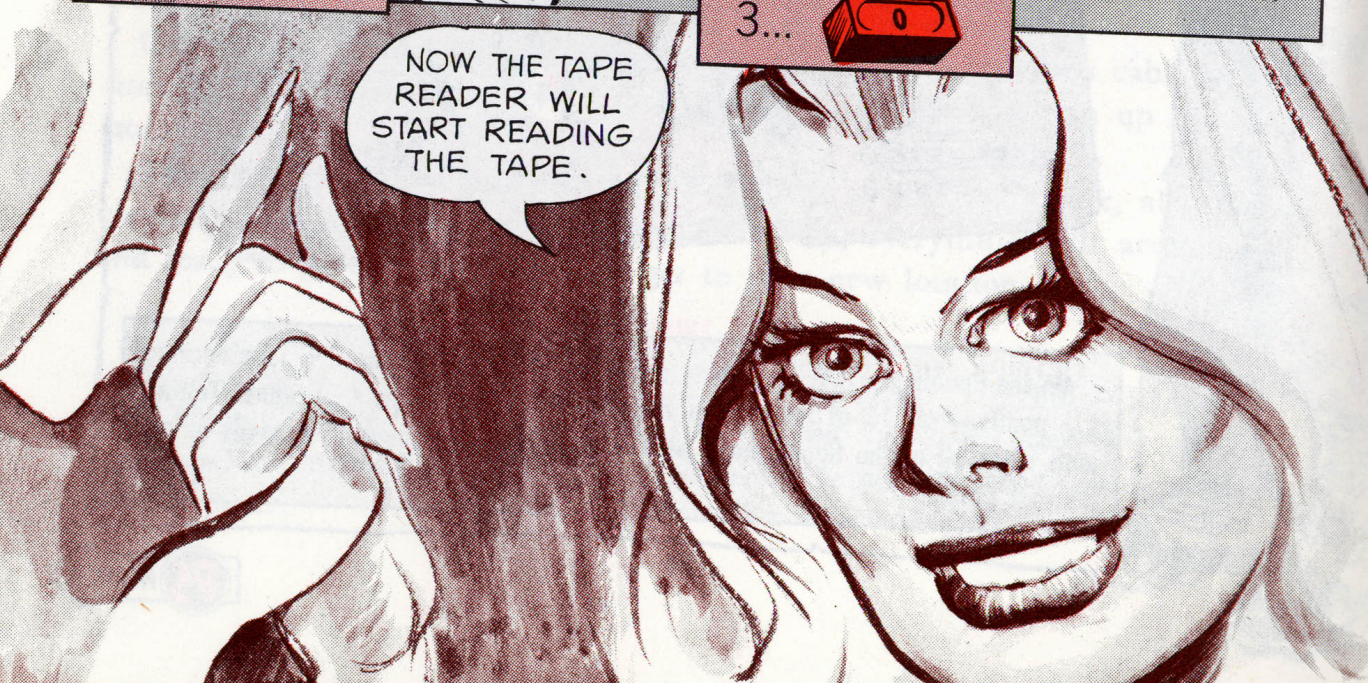
3. Press the "SM" (sample matrix) key.



4. Push the "0" button, then the "8" button and then the "0" button again.



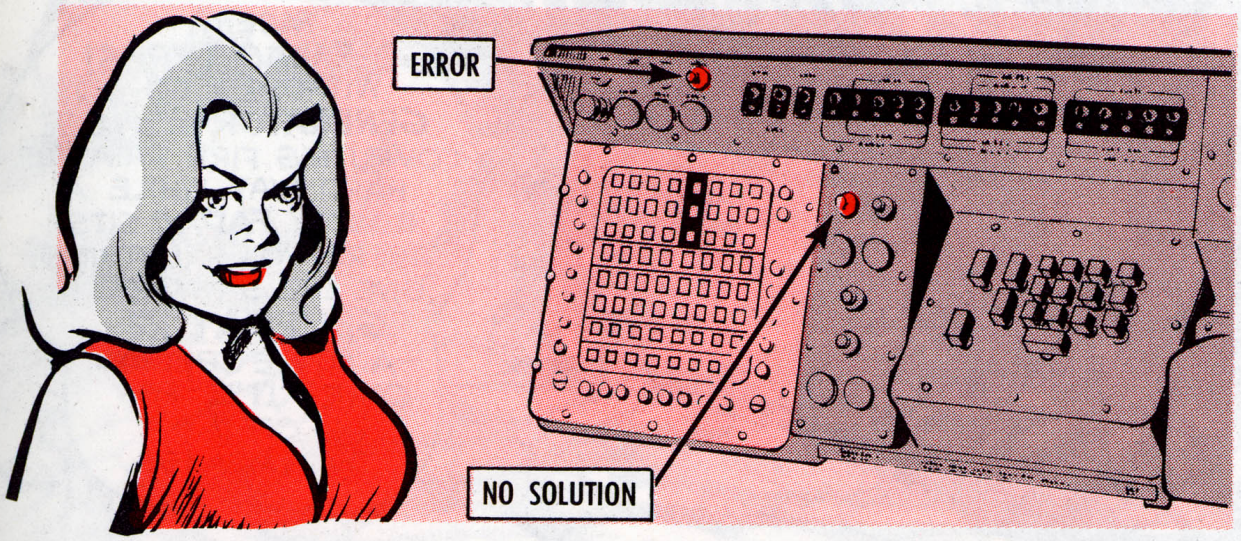
5. Finally press the "Enter" key.



SPOTTING THE ERRORS ON BOTH

If your cannon or rocket program tape doesn't read right at any stage of the game, you'll know in a flash.

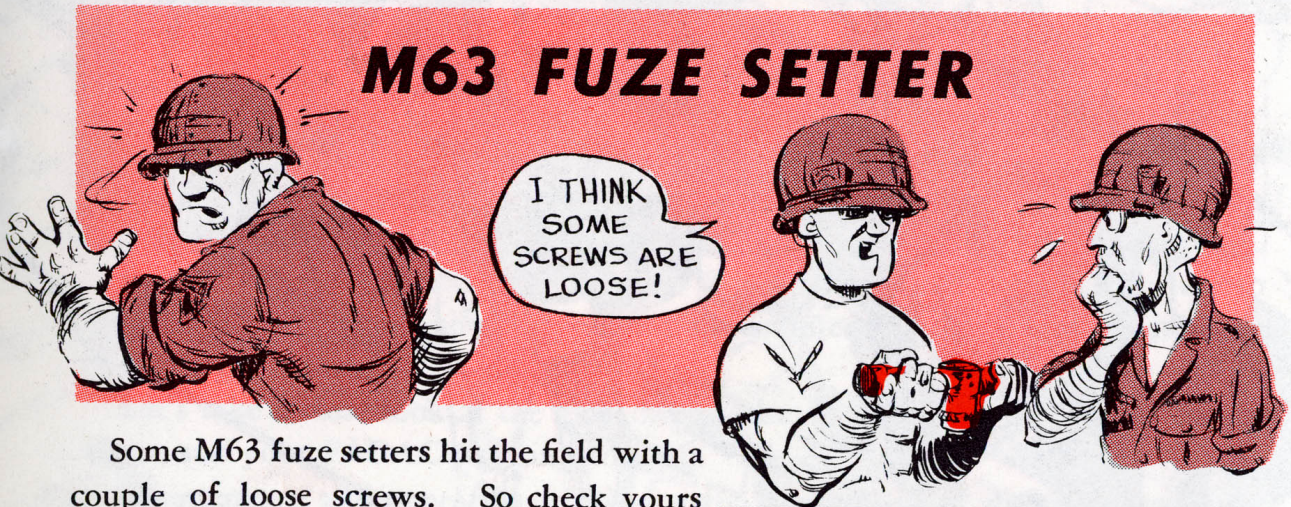
If the reader goofs on the first part of the tape, the reader will stop and the ERROR lamp will flash on the front panel.



If the reader goofs on the second part of the tape, the reader will stop and the NO SOLUTION light will flash.

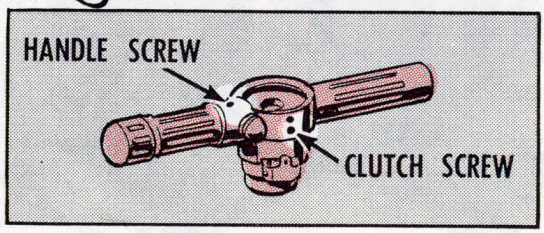
But, no stops and no flashes means your tape reader goes to the head of the class.

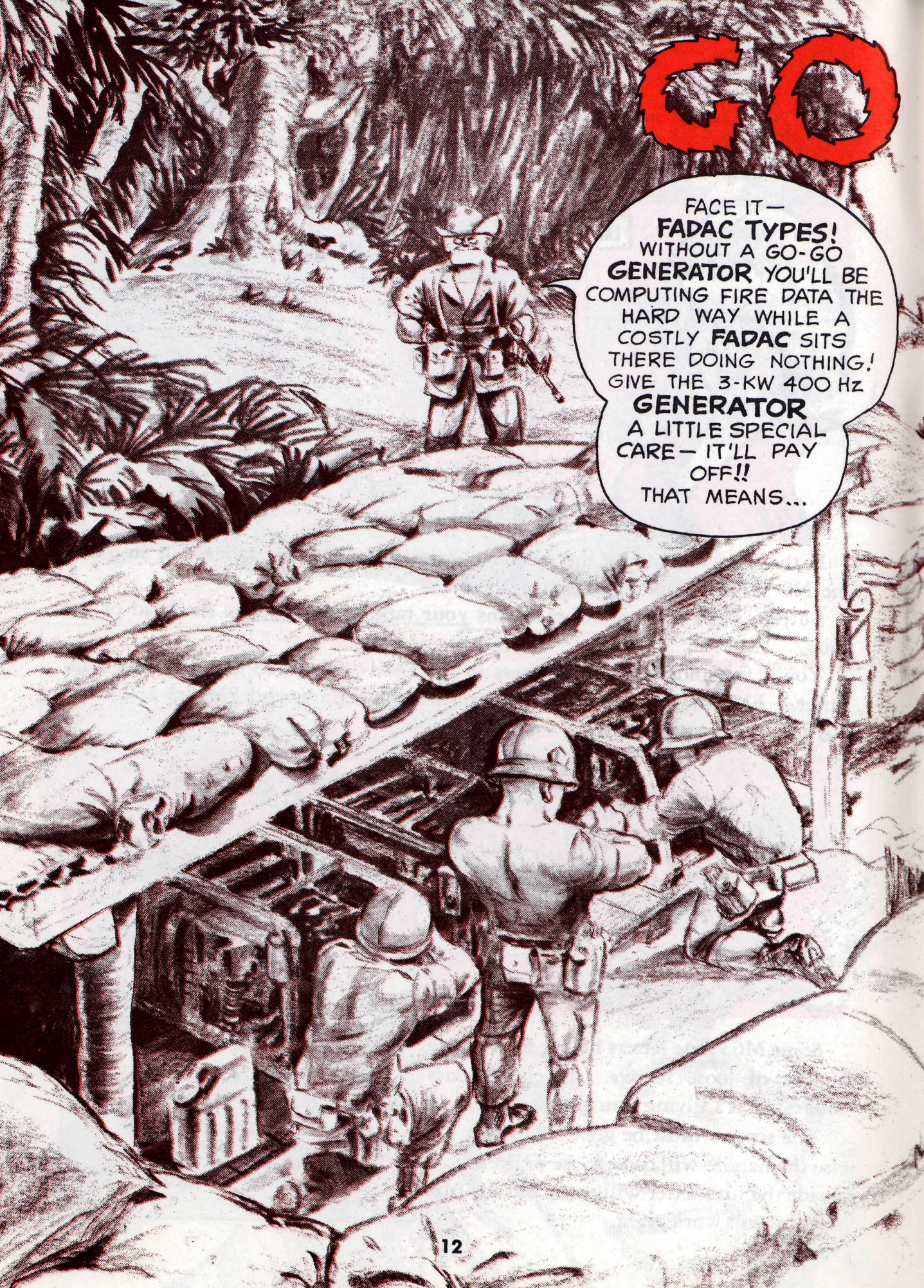
You'll find more on this business in the FM's on the M18 gun direction computer—FM 6-3-1 (14 Jun 68) for cannon application, and FM 6-3-2 (19 Oct 67) for rocket application.



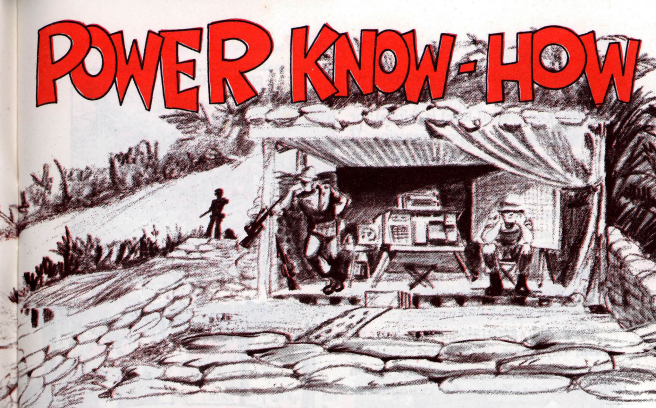
Some M63 fuze setters hit the field with a couple of loose screws. So check yours soonest if it's giving you problems.

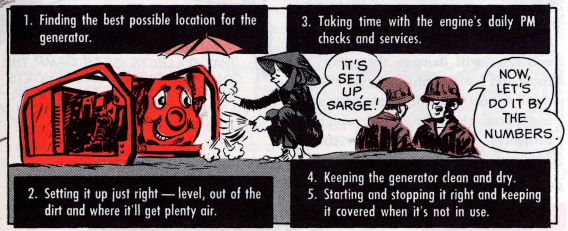
The screws must be good and tight, or else the handle will come loose or the clutch inside the fuze setter will turn, and the fuze setter won't work right.




GO
FACE IT— FADAC TYPES! WITHOUT A GO-GO GENERATOR YOU'LL BE COMPUTING FIRE DATA THE HARD WAY WHILE A COSTLY FADAC SITS THERE DOING NOTHING! GIVE THE 3-KW 400 Hz GENERATOR A LITTLE SPECIAL CARE— IT'LL PAY OFF!! THAT MEANS...

GO POWER KNOW-HOW





It most definitely means rotating your 2 generators on a regular schedule to spread the work load and give you and the maintenance types time to do right by both generators.

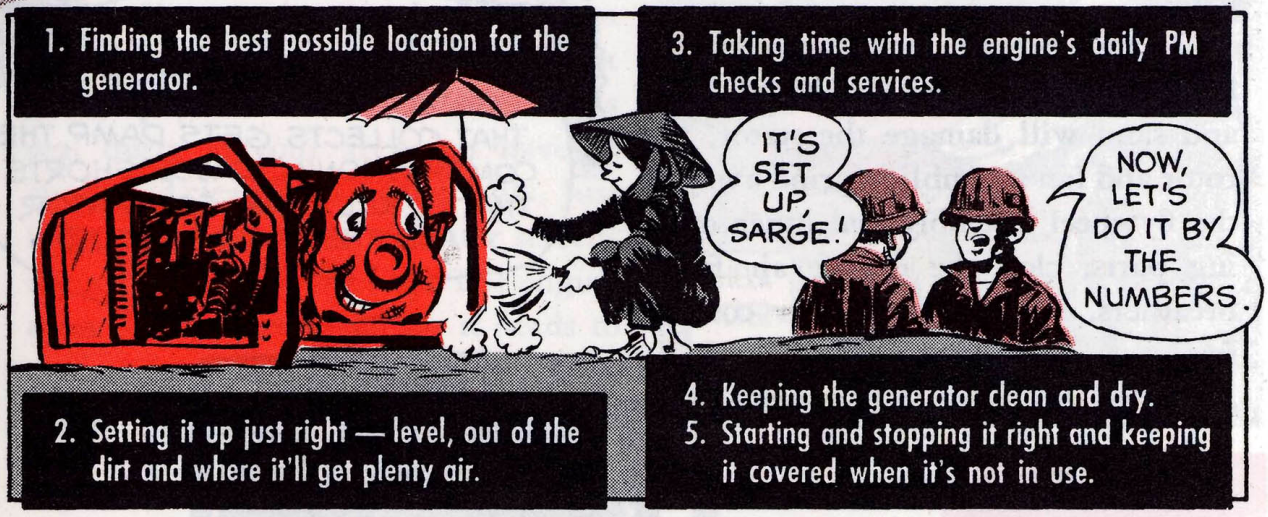
Let's take a close look at the kind of care that'll keep your generators in top shape and your FADAC working for you.

Maintenance and operations scoop for the power end of the generator is in TM 5-6115-271-15 and its -20P. The engine is covered by TM 5-2805-203-14, its companion LO and -24P. Basic operating instructions are given on the data plate on top of the power control box.

The generator takes log book forms 2408-3, -7, -8 and 2409. Use DA Form 2404 for PM checks and 2407 to request maintenance.

(PS) MORE

POWER KNOW-HOW



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PS MORE

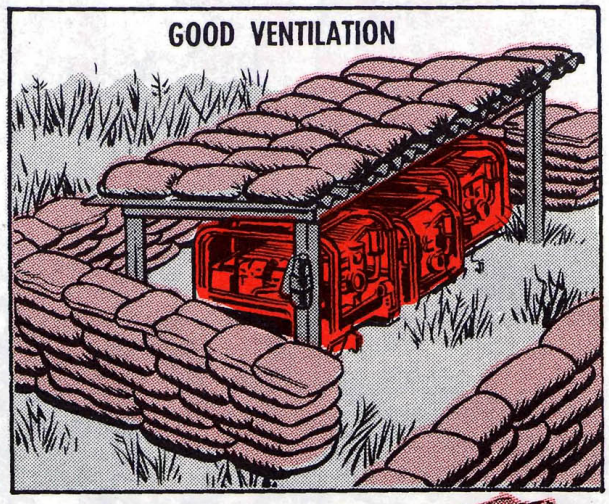
GENERATOR SET-UP

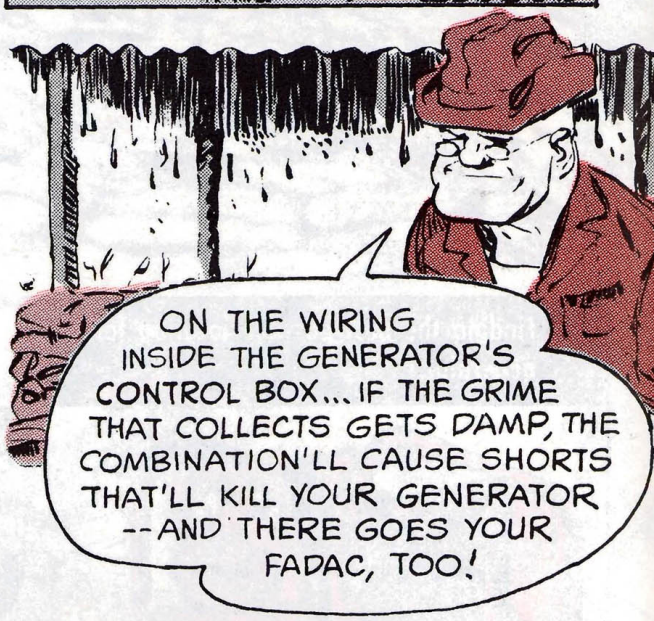
Set the generator up so it stays level and anchor it so it won't slide away. The right engine oil level is critical for engine safety and proper operation. If the generator's on a slant, it can't get the lube it needs.

The air-cooled engine needs good ventilation from all sides at all times. It relies on the flywheel fan and the normal circulation of air around it for cooling, so don't crowd it . . . ever. Give it air. Keep your sandbag revetment and roof at least 2 feet away.

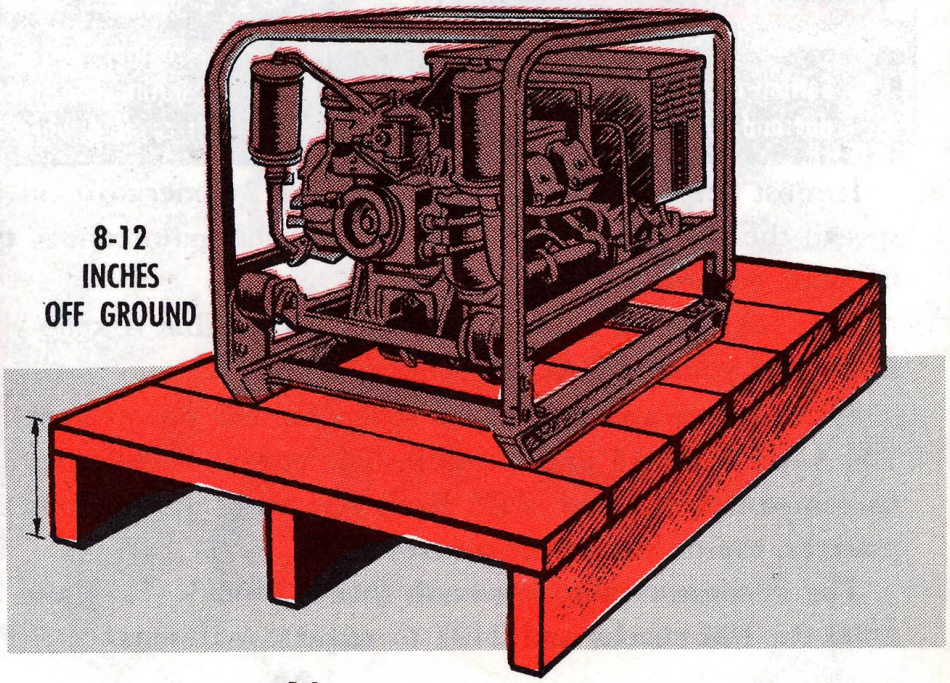
Keep the generator site clear of trash, dry grass, leaves and anything else that'll blow about and pile up on the generator. Keep a fire extinguisher handy.

Do your best to shield the generator from sand, dust and dampness. Dust and sand will damage the stator, the rotor and fan assemblies, grind away at the flywheel assembly and other moving parts, clog the engine air filter, breathers, vents and cylinder cooling fins.

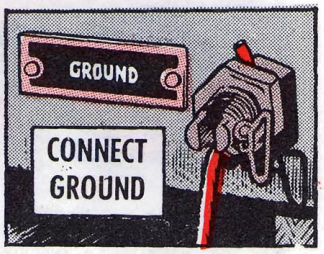


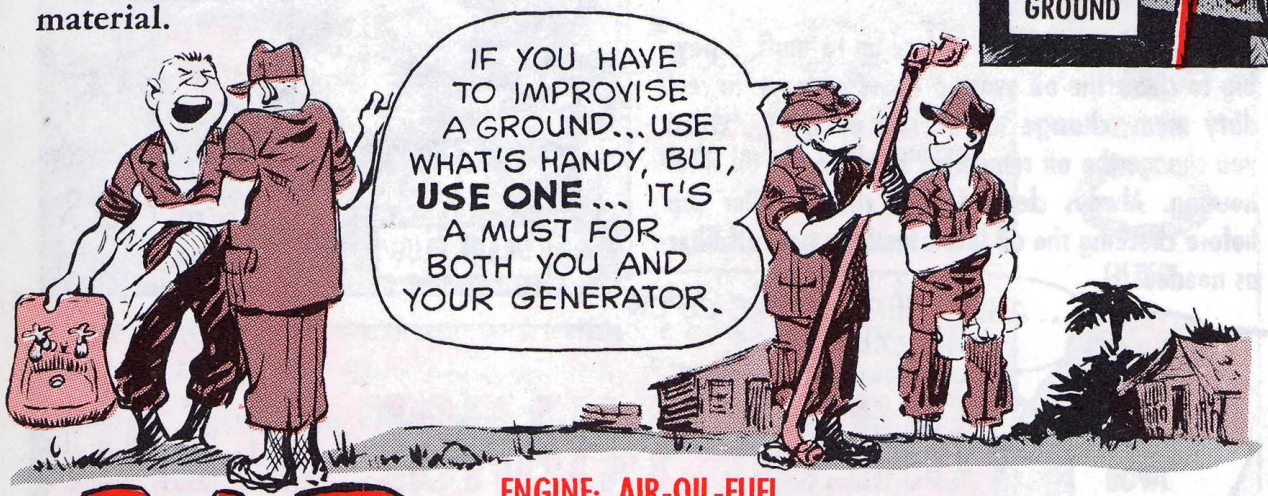


To keep the generator from eating its own dust and sucking up dirt right from under its belly, you can raise the generator off the ground on a stand of some kind. A solid stand 8 to 12 inches off the ground and a few inches wider and longer than the generator works OK.

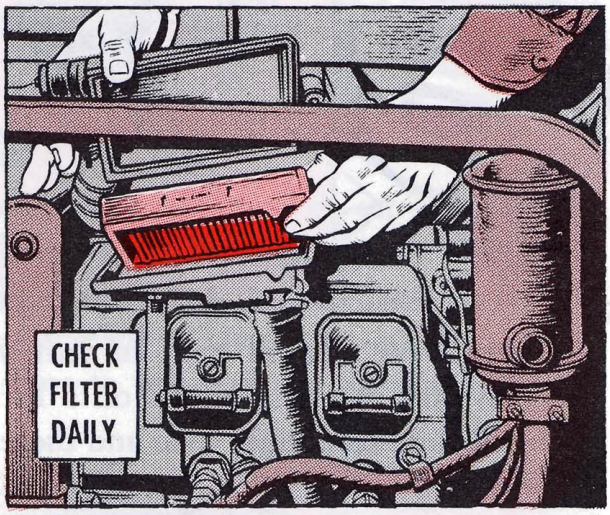


To ground the generator use a 9-foot, 5/8-in solid rod (or 3/4-in pipe), sunk some 8 feet into the ground. Use No. 6 AWG copper wire from the generator ground terminal to the rod. Page 105 of TM 5-6115-271-15 lists grounding material.



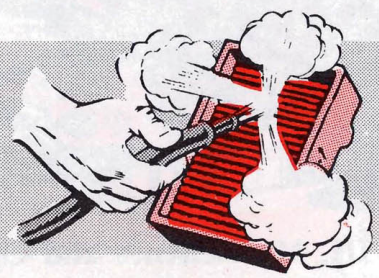


ENGINE: AIR-OIL-FUEL



AIR—You just can't rely solely on the air filter service signal to warn you when the filter's clogged. It may not always pop out at the right time. If it's real dusty in your area you have to check and clean the air filter daily. Just keep in mind that the air filter screens the air the engine lives on. The engine must have all the clean air it needs to run right and give you the strong, steady power you need for operating FADAC.

To clean the air filter, use low pressure air to blow out the dirt; direct the air flow from the inside out (from clean side toward dirty side). Never clean the element with solvent.



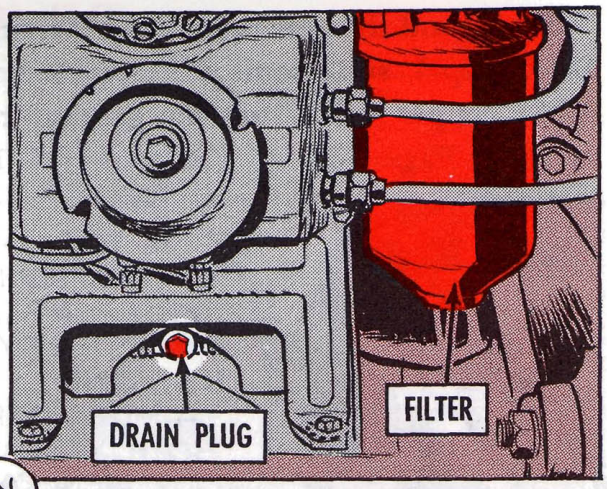
USE LOW PRESSURE AIR

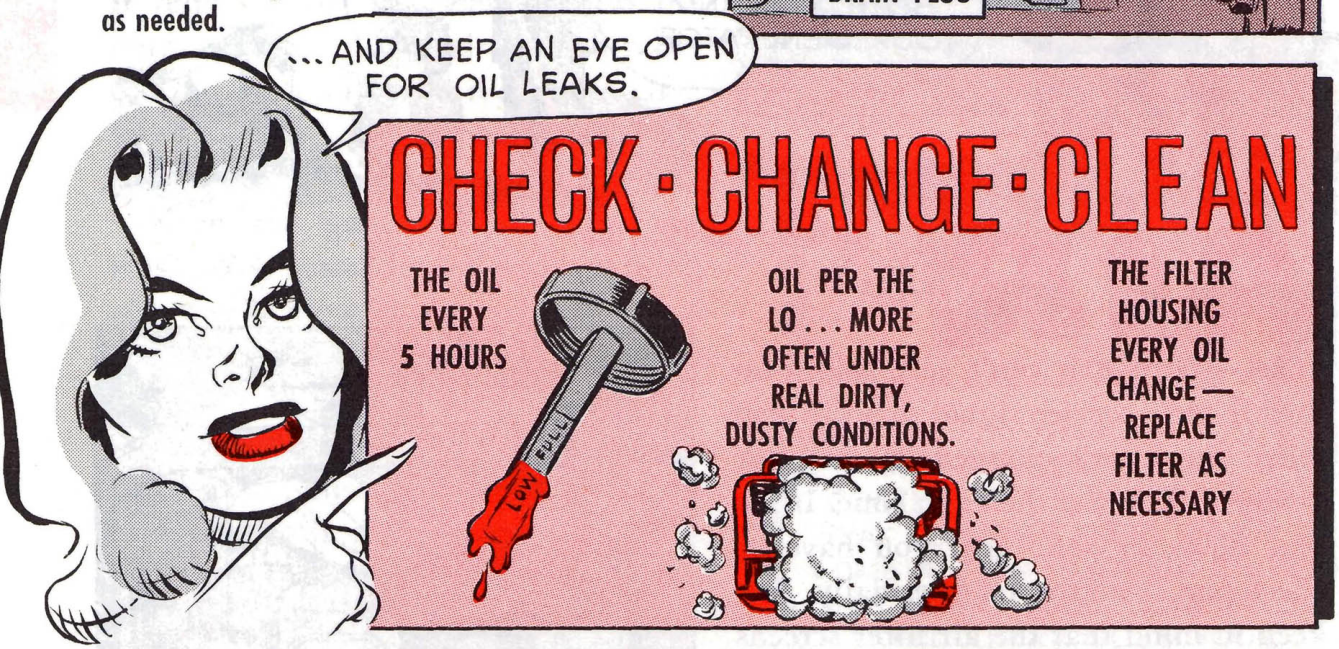
. . . NEVER USE ANY SOLVENT

Wipe out the air cleaner cover and housing and be sure to put the element back in so the arrows point up and the nib on the element nests into its lock in the filter housing.

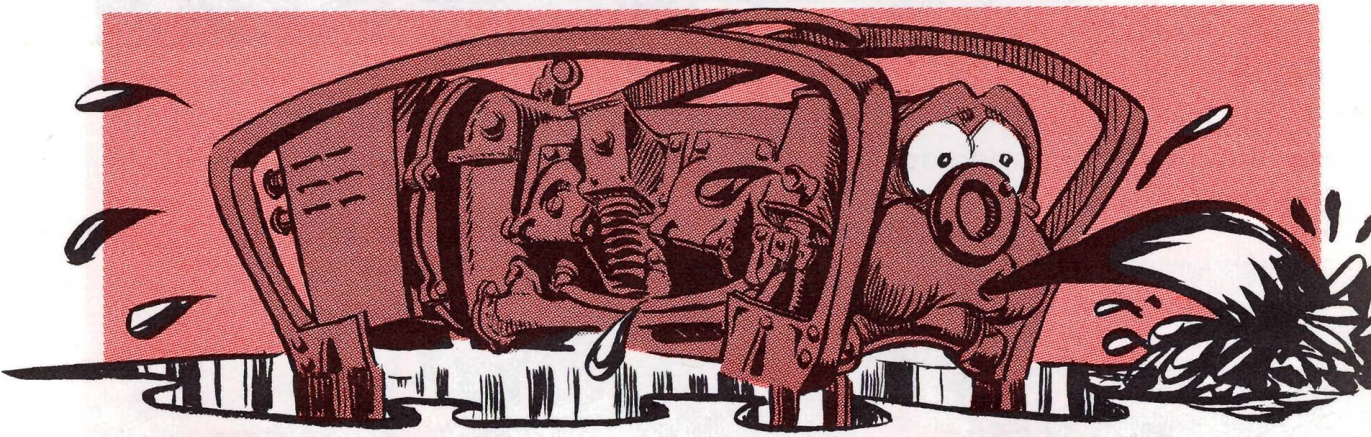
PS MORE

OIL — Always keep oil level up to snuff. It pays big to check the oil every 5 hours at least. In real dirty areas, **change** the oil real often . . . When you change the oil remember to clean the oil filter housing. Always clean around the oil filler cap before checking the oil level. Install a new oil filter as needed.





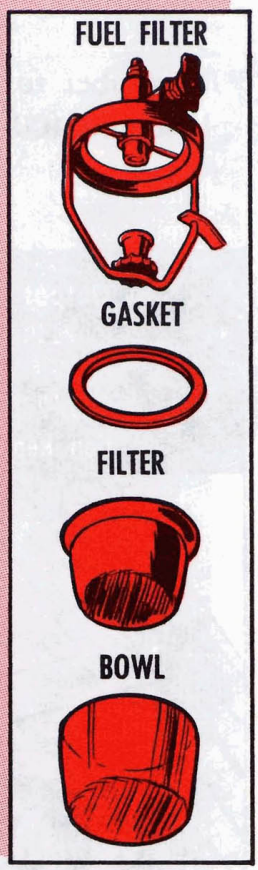
Never, ever add oil past the full mark on the dipstick. To make sure you don't overfill, it's best to add oil a little at a time. If you overfill, you have to drain off the excess right then and there.



For supply info on engine oil, eyeball Sect III, Maintenance and Operating Supplies, TM 5-2805-203-14, and the LO.

Whatever you're lubing on the engine, always clean the lube point before you give it fresh lube . . . keeps dirt out of working parts.

FUEL



FUEL—Always clean the fuel sediment bowl before you fire-up the generator. If you neglect the bowl even once, you'll be out of business fast. Water and dirt will get into the fuel lines and the carburetor. Once the engine starts spittin' and sputterin', it's too late . . . and, there goes your FADAC power.

Replace the fuel filter if it's clogged or damaged. Also the sediment bowl gasket, if it's bad. Wipe off the fuel filter head while you're working the sediment bowl. Remove the strainer in the gas filler neck and tap it clean. You can use cleaning solvent to clean the strainer, but be sure it's dry before you replace it.

Keep your fuel containers clean and sealed. Take time to clean around the tank cap before refueling. Straining your gas supply is one sure way to beat fuel system problems that can deadline your generator.

FEEDING FADAC

To power the FADAC system safely the generator must be set for 120/208 volts, 3-phase and 400-hz. No other output will do for FADAC.

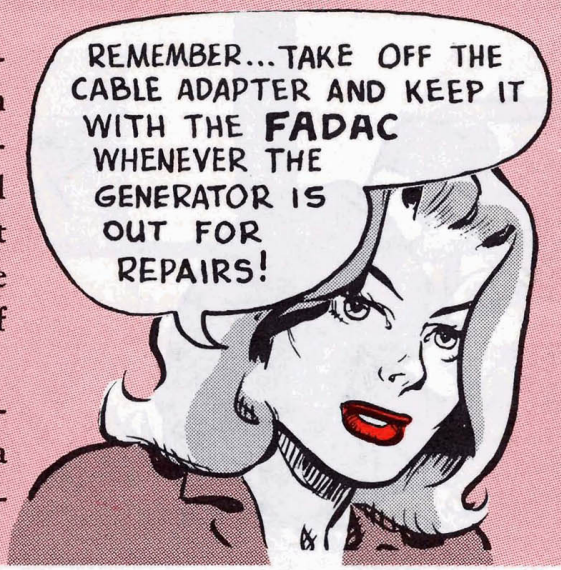
The output selector switch is inside the control box, so you have to remove the box cover (it's held by 4 quarter-turn screws) to check the setting.

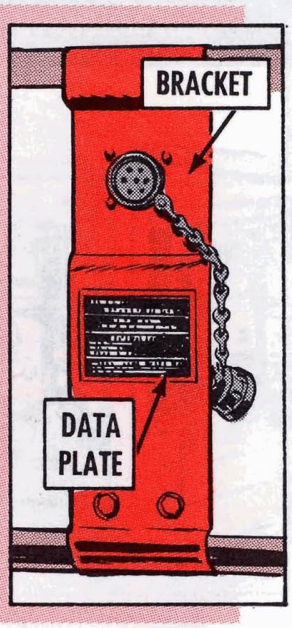
While you're in the control box take time to wipe off any dust or dampness there. Replace the cover good and tight.

FADAC CABLE BRACKET

FADAC's cable-adapter bracket comes with its own attaching hardware. When you install it, be sure the bracket has a good grip on the top and bottom brace of the generator frame.

The cable hook-up instructions are listed on a data plate on the generator's terminal box.

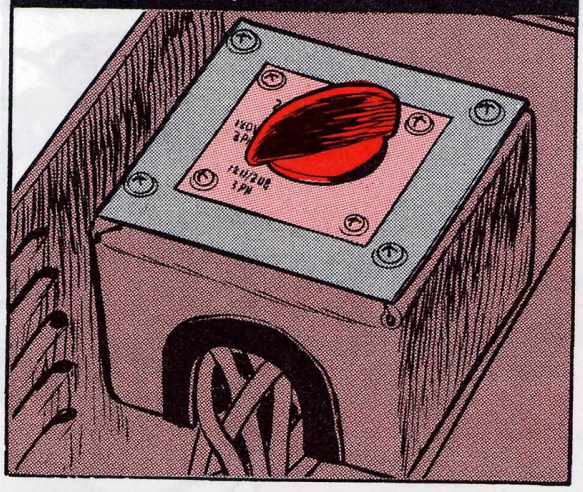


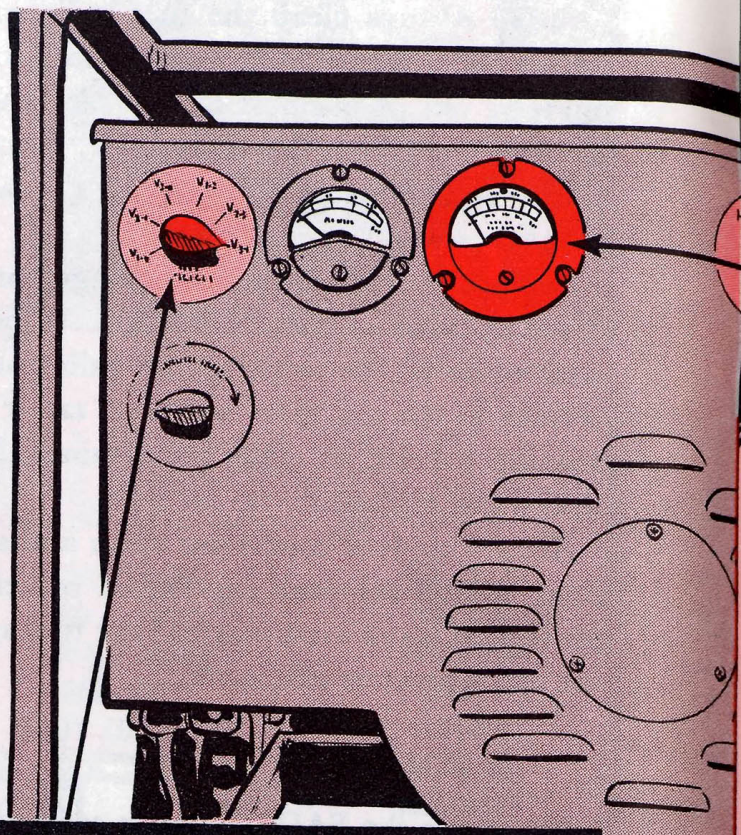


PS MORE

Remember for FADAC operation you keep the generator on 120/208 volts, 3-phase and 400-hz. To make the power adjustments you work like this:

1. **Output Selector Switch.** Remove the control box cover and make sure the switch is on the 120/208 volts, 3-phase position. Replace the cover.





2. **Voltage Selector Switch.** Use the switch to check the voltage output at the terminal load hook-up. The 3 switch settings on the right will register the voltage output between terminals V1-2, V2-3, and V3-1. And, the voltmeter reading you want, between any 2 terminals, of course, is 208 volts. The voltmeter needle must be smack on the red line on 208 volts.

The 3 switch settings on the left — V1-0, V2-0 and V3-0 — give you the voltage between each terminal and the ground connection. Your voltmeter reading on each of these settings must be 120 volts on the nose. Adjust it with the variable resistor.

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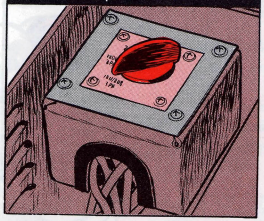

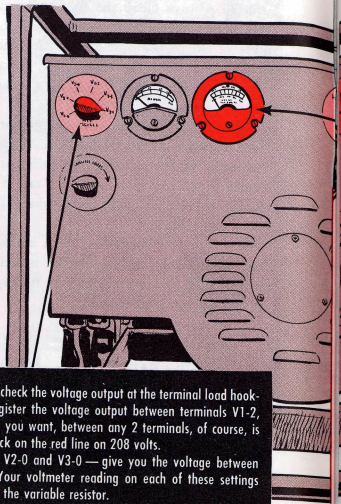

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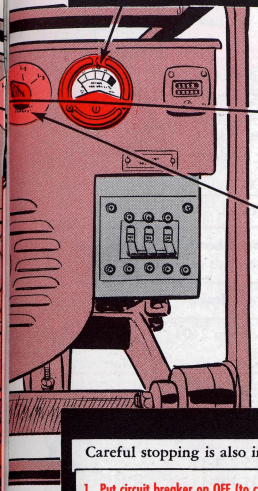
3. Load Meter. The load meter should read 0.



4. Frequency Meter. If the meter doesn't read 400 hz, you'll have to adjust the engine speed. This job takes 2 men — 1 to keep an eye on the meter while the other adjusts the governor.

To adjust the governor you first loosen the governor nut with a wrench. Then you turn the governor screw with a screwdriver (left or right) as your buddy signals to increase or decrease the governor setting. When the meter reads 400 hz, tighten the nut and you're done.

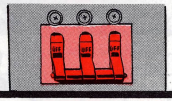
5. Current Selector Switch. Use this switch and the load meter to check the current draw at each terminal. And, here you've got to do a little figuring, so stay alert. You have to be sure the combined output (percentage), of the separate terminals doesn't exceed the 100 percent marker on the load meter. If the total output registers over 100 percent, you're in trouble . . . you've got shorts or worse, so stop the generator and yell for the maintenance types to take over.

Same goes, of course, anytime you can't get the correct voltage or cycle adjustments — you quick-like shut-down and call for maintenance help.

SHUT-DOWN SOP

Careful stopping is also important generator PM. So, by the numbers here:

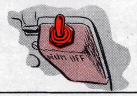
1. Put circuit breaker on OFF (to cut power to FADAC).



2. Turn the variable resistor knob counter-clockwise all the way.

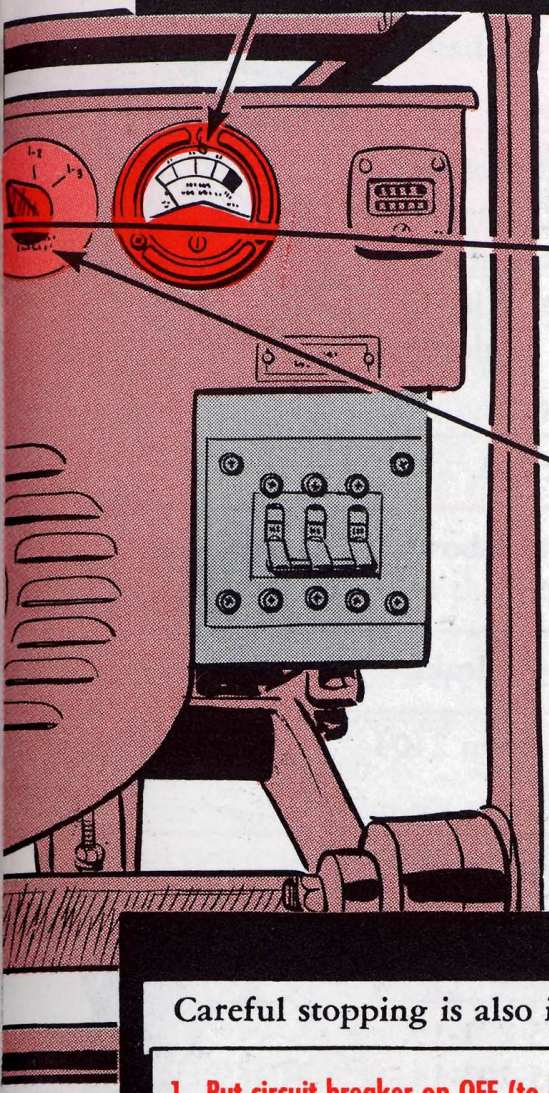
3. Set the governor control on start-idle position, and let the engine idle 3-5 minutes.

4. Turn the Off-Run switch to OFF.



PS MORE

3. **Load Meter.** The load meter should read 0.



4. **Frequency Meter.** If the meter doesn't read 400 hz, you'll have to adjust the engine speed. This job takes 2 men — 1 to keep an eye on the meter while the other adjusts the governor.

To adjust the governor you first loosen the governor nut with a wrench. Then you turn the governor screw with a screwdriver (left or right) as your buddy signals to increase or decrease the governor setting. When the meter reads 400 hz, tighten the nut and you're done.

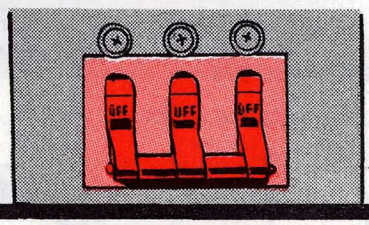
5. **Current Selector Switch.** Use this switch and the load meter to check the current draw at each terminal. And, here you've got to do a little figuring, so stay alert. You have to be sure the combined output (percentage), of the separate terminals doesn't exceed the 100 percent marker on the load meter. If the total output registers over 100 percent, you're in trouble . . . you've got shorts or worse, so stop the generator and yell for the maintenance types to take over.

Same goes, of course, anytime you can't get the correct voltage or cycle adjustments — you quick-like shut-down and call for maintenance help.

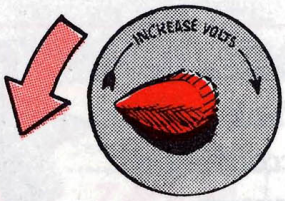
SHUT-DOWN SOP

Careful stopping is also important generator PM. So, by the numbers here:

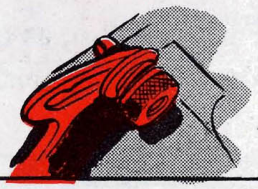
1. **Put circuit breaker on OFF (to cut power to FADAC).**



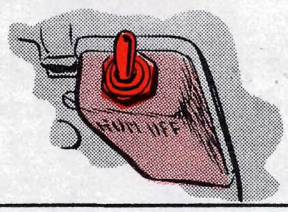
2. **Turn the variable resistor knob counter-clockwise all the way.**



3. **Set the governor control on start-idle position, and let the engine idle 3-5 minutes.**



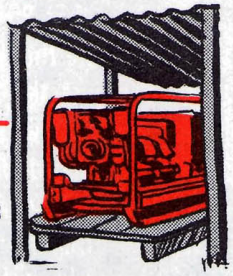
4. **Turn the Off-Run switch to OFF.**



PS MORE

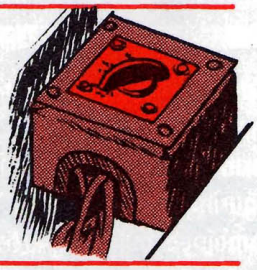
GENERATOR PM CHECK-LIST

- ☑ Generator level and on a firm platform out of dust and sand.



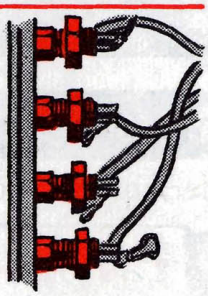
- ☑ Generator clean. Dust, sand, dampness wiped off.

- ☑ Output selector switch on 120/208 volts, 3-phase position.

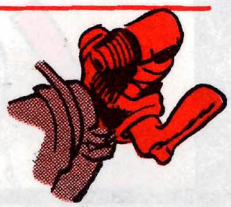


- ☑ Engine oil checked. **Not over full mark.** Change oil according to LO . . . more often when it's real dusty and dirty.

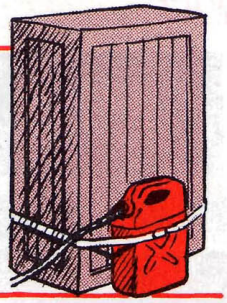
- ☑ FADAC-cable/generator load-terminals hooked-up right. From top to bottom: White-Red-Black-Green.



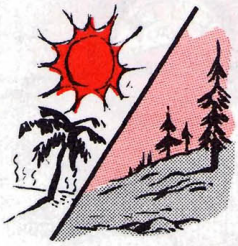
- ☑ Fuel selector lever set for **Tank** or **Aux Tank**, according to fueling system.



- ☑ Gas tank or container full, and extra gas supply handy. Strain gas for best results.

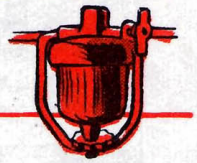


- ☑ Air intake lever set for proper temp. **Summer** for above 32 degrees. **Winter** for below 32 degrees temp.



- ☑ Air filter clean.

- ☑ Fuel sediment bowl clean.



- ☑ No oil or gas leaks.

- ☑ Daily DA Form 2404 completed.

- ☑ Log book on hand. Needed entries recorded.

- ☑ TM 5-6115-271-15, TM 5-2805-203-14 and its LO on hand.

- ☑ Good ventilation for generator on all sides. Generator area clean and fire extinguisher handy.

PM RECORDS

Complete the entries on DA Form 2404 and DA Form 2408-3, as needed, and stash the log book as required by your SOP. Cover the generator with its canvas cover.

RECORD ARTILLERY TUBE CHANGES AND . . .

TOTAL ROUNDS FIRED ON DA 2408-10

If you want to stay safe around artillery you've got to do more than keep away from its muzzle end. You've got to **know** the stress and strain it's been through!

So . . . records requirements for gun tubes—and the guns they're a part of—are changing with a super bang!

That bang comes from TB 750-231 (31 Dec 68) coupled with DA Msg 896763 (10 Feb 69). Both should've come to you through your own pubs and command channels.

Both call for a record of gun tube changes on DA 2408-10 in the equipment log — **deleting** the exception that's now in para 4-11b(1)(a) 2 of TM 38-750 for gun tubes.

TB 750-231 goes a couple of steps further.

It sets up control of overhaul of artillery on the basis of miles traveled (if self-propelled) or total equivalent full charge (EFC) rounds fired by the weapon (EFC rounds are defined in Appendix A of the TB and in TM 9-1000-202-35).

Miles traveled are available for a self-propelled weapon on its DA 2408-1 in the log or on the weapon's odometer. (DA 2408-1 monthly should be checked in all cases since there may have been an odometer change recorded there.)

(Even though total rounds fired now are listed on DA 2408-3, chances are these are for the tube currently installed **only** — from the current DA 2408-4).

These entries on DA 2408-10 are used so the Army can keep track of the tubes used on an end item.

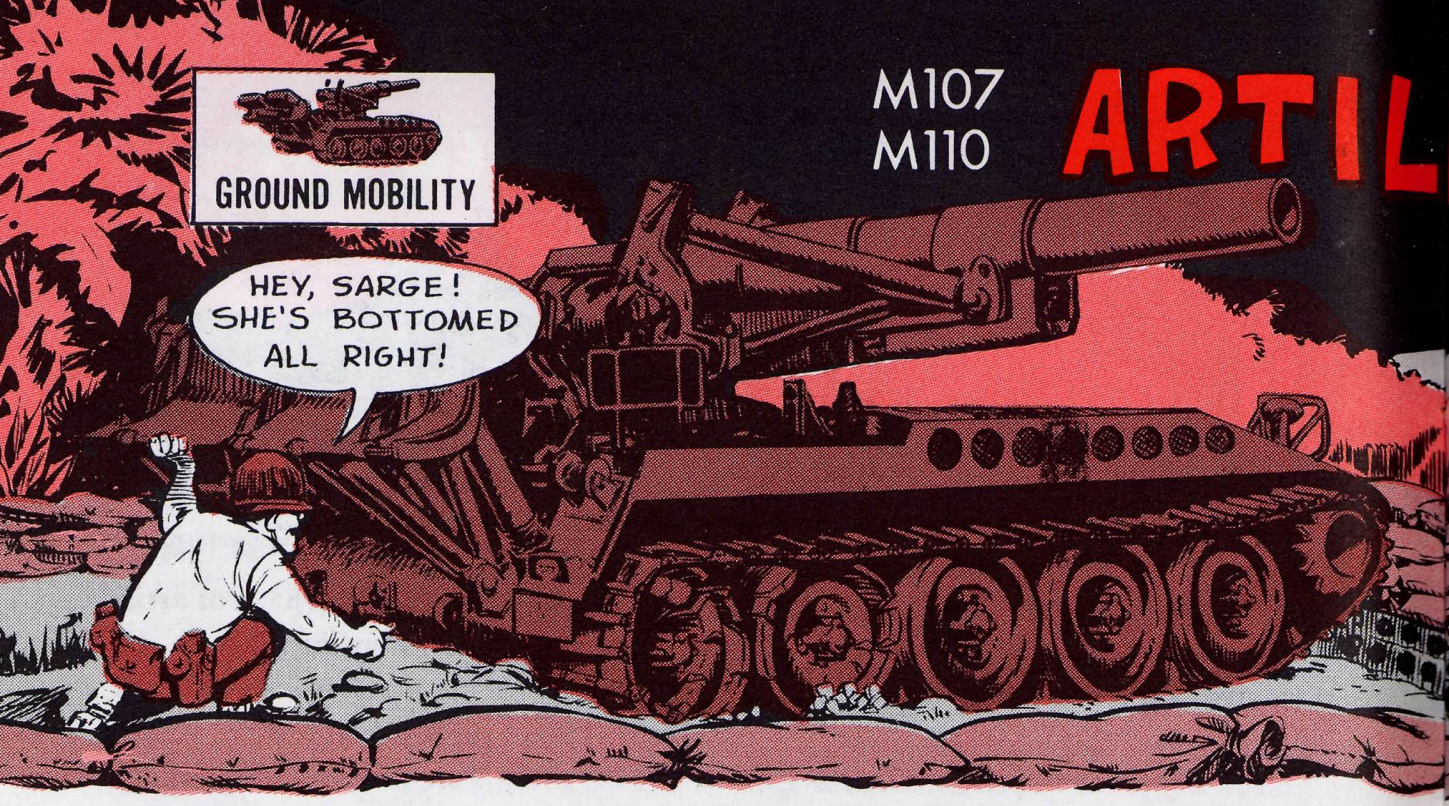
FOR TOWED HOWITZERS:

NOMENCLATURE	READING			DATE	DATE	DATE
	MILES	HOURS	ROUNDS/ STARTS	SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
TUBE M137			9976	9 JAN 69	7 APR 69	2 JUL 69
				929	1324	1422

FOR SP HOWITZERS:

NOMENCLATURE	READING			DATE	DATE	DATE
	MILES	HOURS	ROUNDS/ STARTS	SERIAL NUMBER	SERIAL NUMBER	SERIAL NUMBER
TUBE 155 MM	1742		8891	11 NOV 68	6 JUL 69	18 JUL 69
				2173	2427	4173

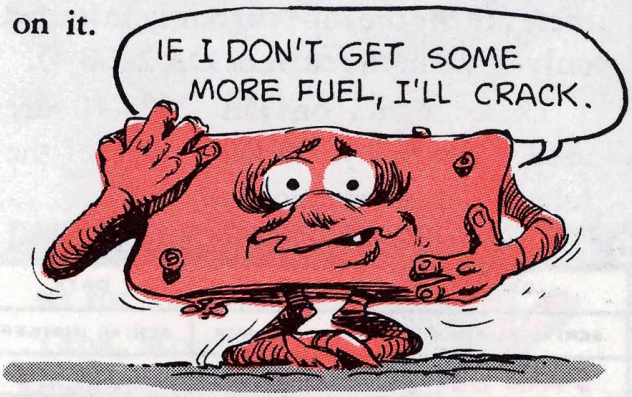
DA Form 2408-10



Cracked fuel tank or beat-up rear roadwheels a problem on your M107 or M110 vehicles?

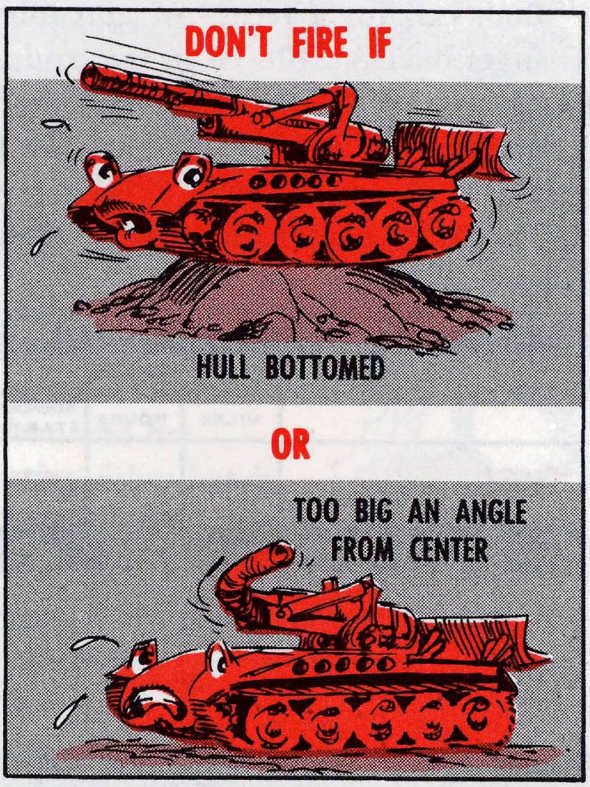
Here's what you can do . . .

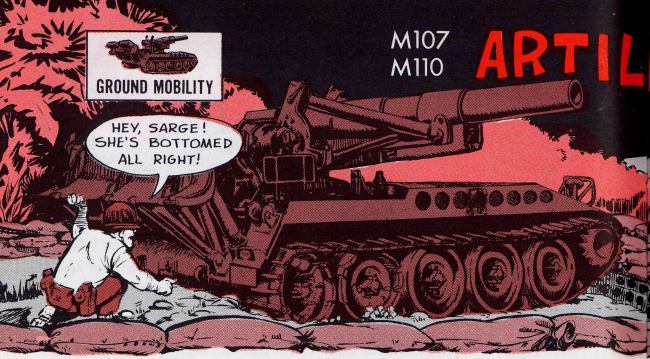
Keep the fuel tanks as full as you can. When you fire, fuel slaps against the side of a partly-empty tank. In time this hammering can crack the tank. With the tank full there is less strain on it.



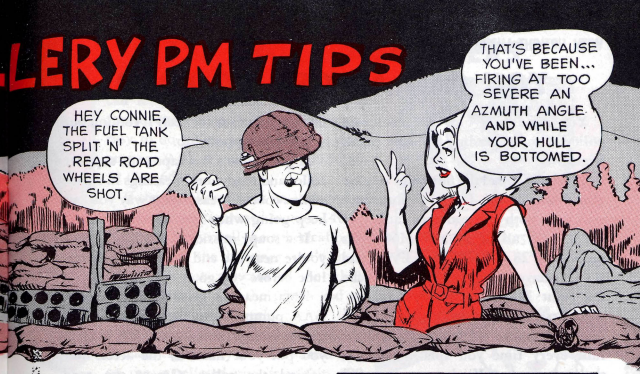
Fire as close to the center of traverse as you can. The hull twists when you shoot at a big angle from the centerline and this puts added strain on the tank. Unless there is an emergency, move the vehicle when you have a big azimuth change.

Firing with the hull bottomed strains the fuel tank and, in fact, the whole hull. The suspension system in the LOCKED position was made to take most of the shock of firing. With the hull bottomed the suspension can't do its job.





M107 M110 ARTILLERY PM TIPS



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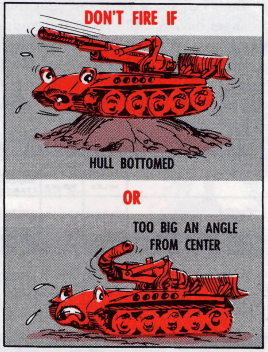
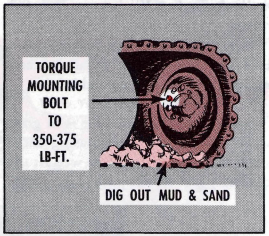
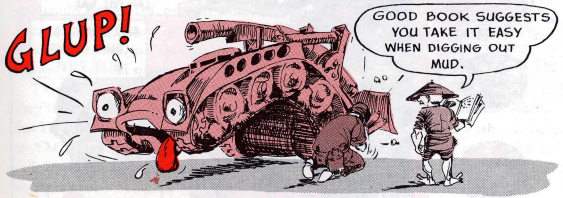


The rear roadwheels (trailing idlers) take more strain than the other roadwheels and are more likely to fail because the track is wrapped around them.

Correct track tension cuts down on failures. Adjust the track like it shows on pages 3-34 to 3-38 in your TM 9-2300-216-10 (Sep 68).

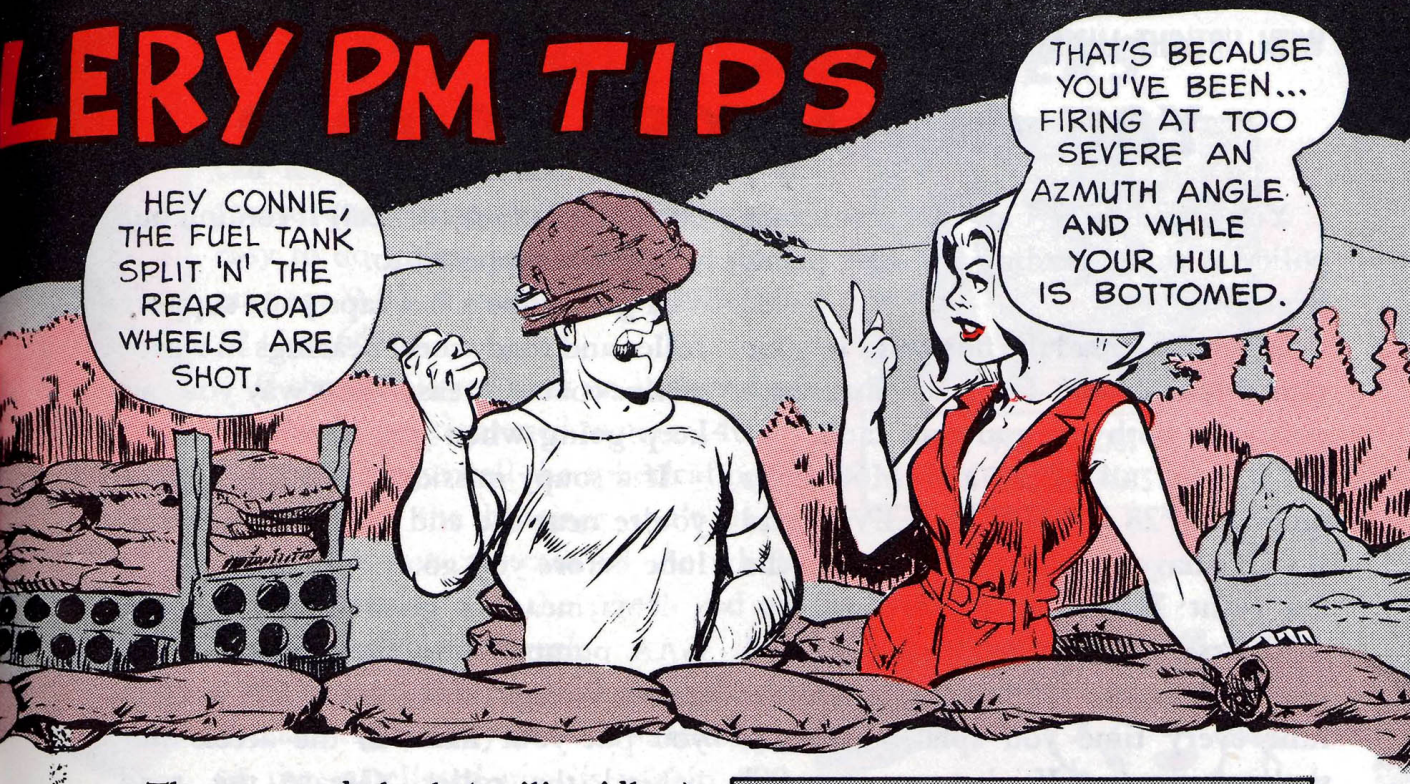
Wrong mounting bolt torque is hard on the roadwheels. Torque should be 350-375 lb-ft.





Mud and sand packed between roadwheels wear them out. Dig out mud and sand buildup between the idler wheel discs as a regular part of both before and after preventive maintenance checks, and any other time it builds up.

LERY PM TIPS



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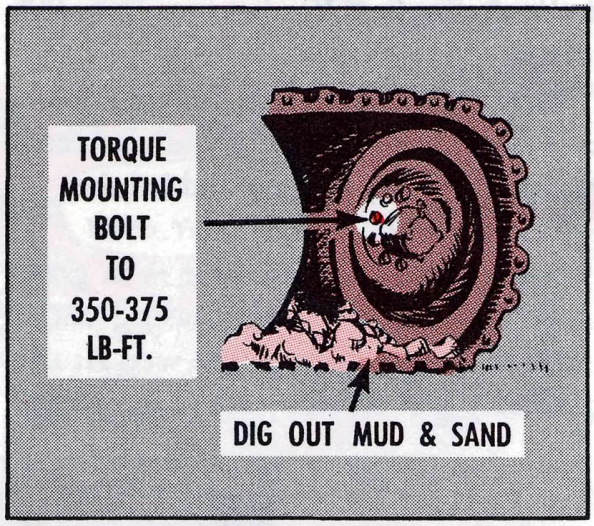
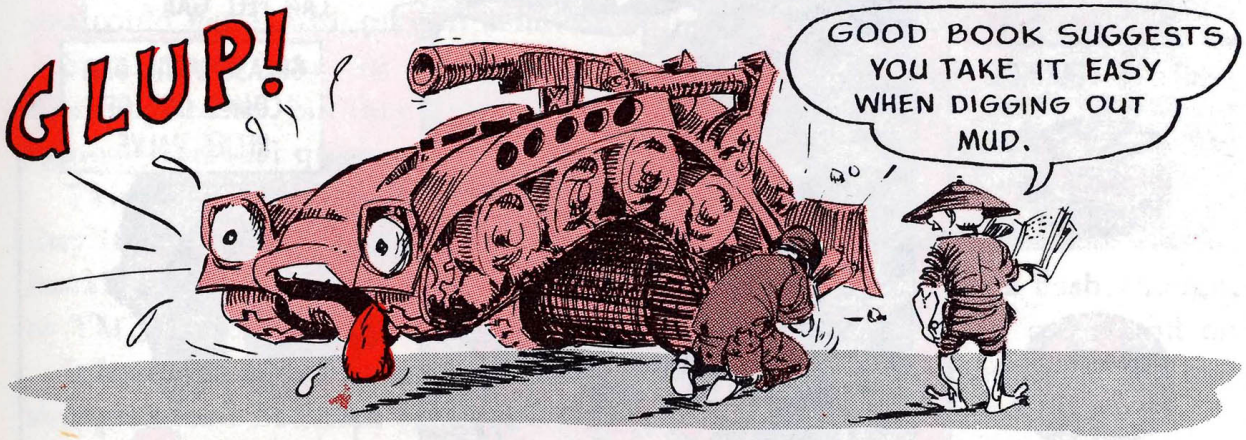




Mud and sand packed between roadwheels wear them out. Dig out mud and sand buildup between the idler wheel discs as a regular part of both before and after preventive maintenance checks, and any other time it builds up.

WITH UPTIGHT LUBING . . .

YOU CAN AFFORD TO FORD

You wouldn't buy an insurance policy without reading the fine print. Right?

So why not read the fine print in your tank's lube order? It's a life insurance policy for both you and your tank.

LO's for all M48- and M60-series tanks, M728 (T118E1) CEV's and AVLB's have something like this in the fine print: **Relube after fording.**

'Course when you're chasing the Bad Guys you're not going to stop and relube every time you splash across a shallow stream. You've got a good reason.

Only thing, the wheel bearings on a tank are too dumb to understand reasons. All they understand is lube.

What to do?

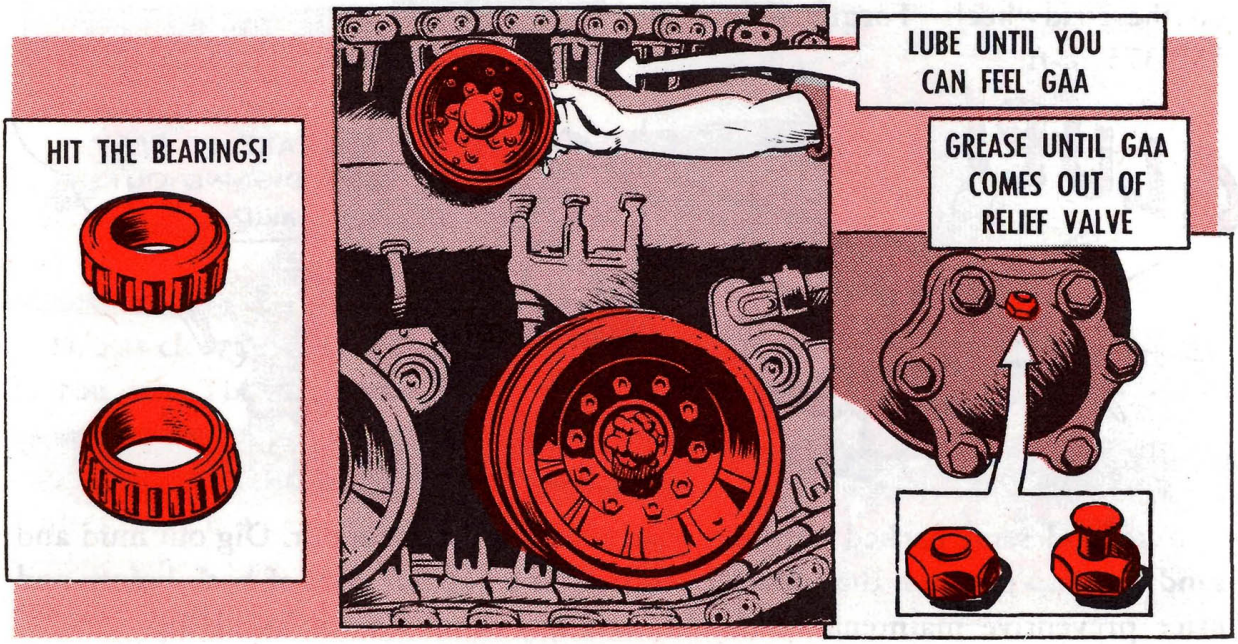
Just make sure your lube is in good shape before you start chasing those slippery rascals through the wet. At the quarterly lube service push in the grease until you can see (or feel) it coming out where it's supposed to.

A good lube job wraps your support roller and road wheel bearings in a protective coat of grease. That way you can keep going when you have to.

If a soupy mission is coming up and you're near the end of a lube quarter, lube before you go.

This means a good lube job, with GAA pumped into the support roller grease fittings until you can feel it when you put your hand in the access slot behind the roller. Grease the road wheels until the GAA comes out the relief valve, and the road wheel arms until clean lube shows between the arm retainer and the arm.

If you're not sure whether to grease or not, always remember that grease is cheaper than bearings — and lots easier to get.

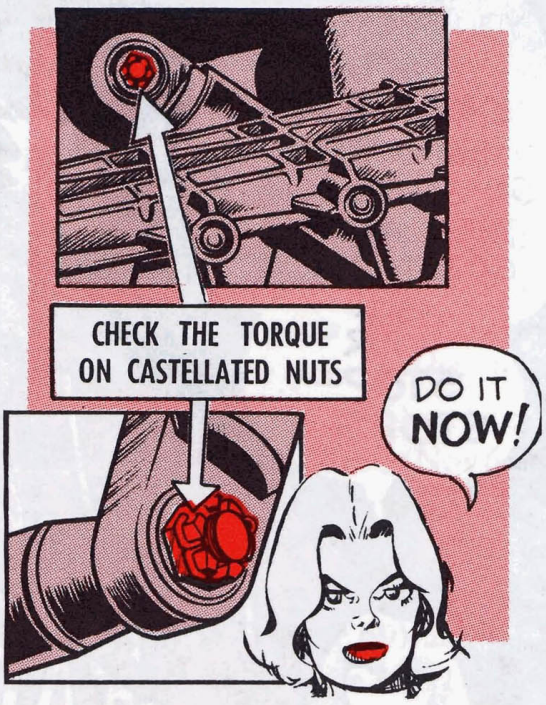


M551 SHOCK ABSORBERS

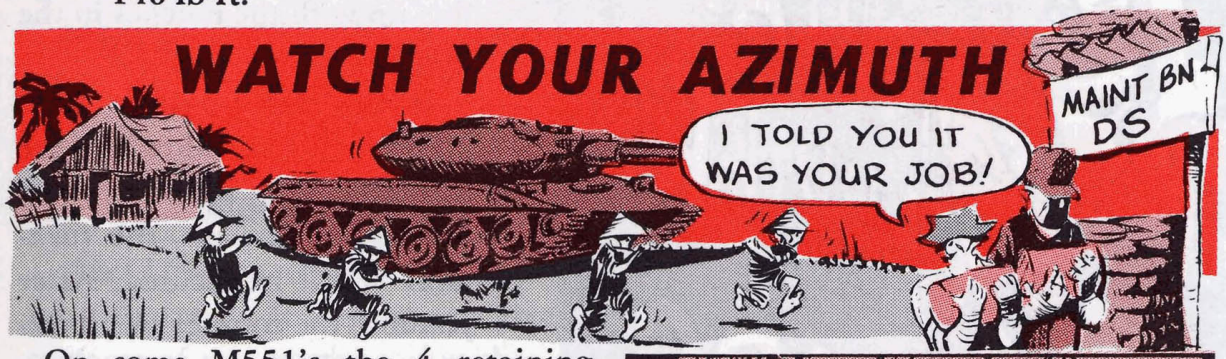
The shock absorbers on your M551 can let you down real sudden-like if you torque 'em up too tight. This is real easy to do unless you follow the poop on page 9-82 of your TM 9-2350-230-12 (Jun 66).

If the castellated nuts on each end of the shocks get tightened to over 140 lb-ft torque, they swell the spherical bearings. When the bearings can't move freely this puts a strain on the whole shock absorber and the piston rod assembly is likely to break.

Be a good idea to have your shocks checked right away to make sure torque on the castellated nuts is within 100-140 lb-ft.



WATCH YOUR AZIMUTH

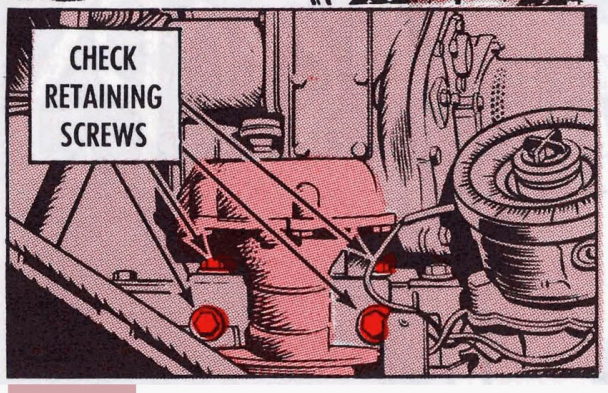


On some M551's the 4 retaining screws on the traverse gear box have been coming loose. When this happens you could get a little play in azimuth.

Sure! Sure! You can tighten the 4 retaining screws, but they'll come loose again—and real quick, too.

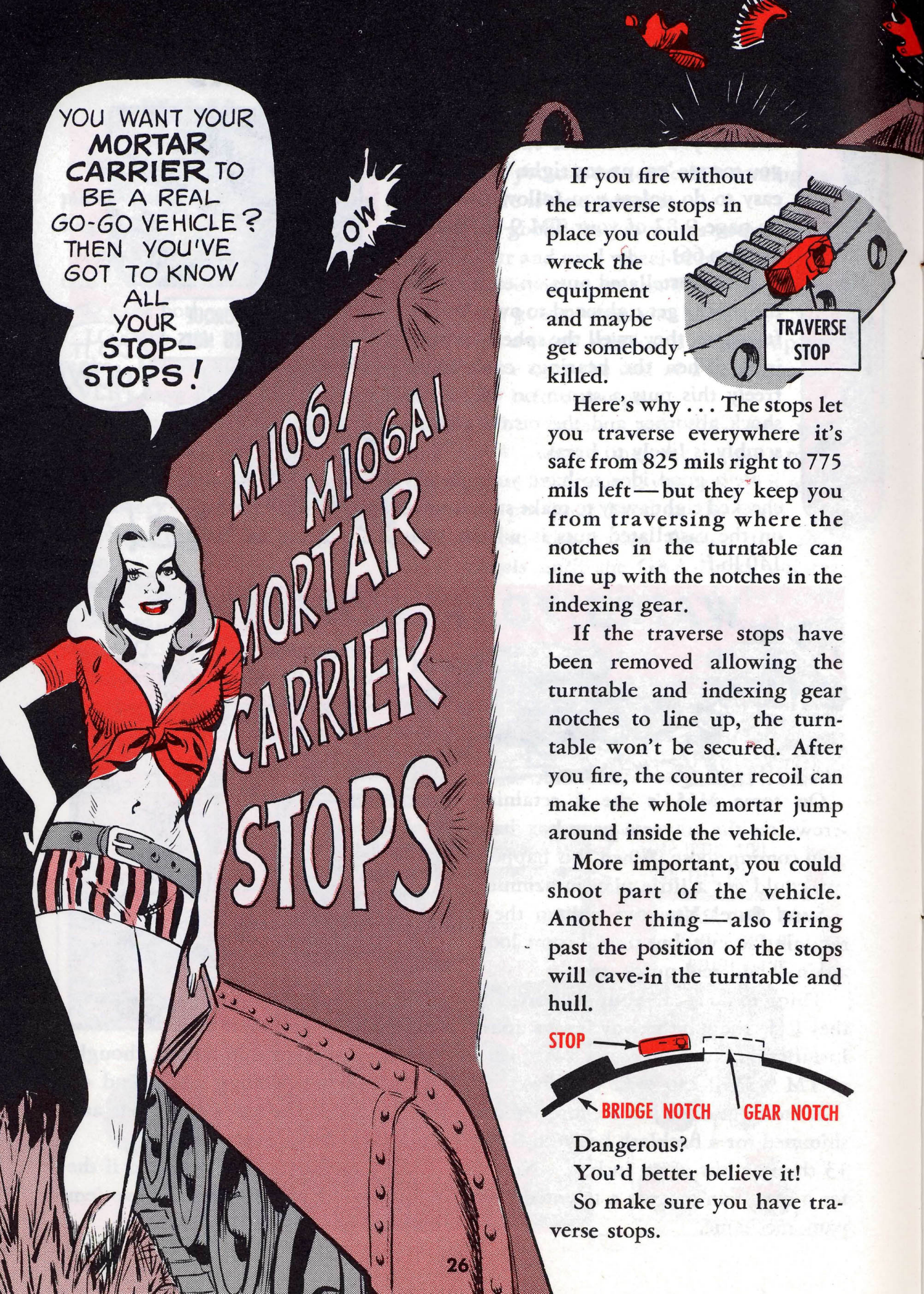
Thing to do is call your support, and they'll do the job the way it says under Installation Notes on pages 5-7 of Ch 1 to TM 9-2350-230-35/2 (Jul 66).

It has to be done just so, torqued and shimmed for a backlash between 8 and 13 thousandths of an inch . . . No job for a crewman or even a talented company mechanic.



Support can do it in a flash, though, and they'll put sealing compound on the threads so the screws stay put and don't give you any more trouble.

So check the traverse gear and if the mounting screws are loose, have 'em attended to.



If you fire without the traverse stops in place you could wreck the equipment and maybe get somebody killed.

Here's why . . . The stops let you traverse everywhere it's safe from 825 mils right to 775 mils left—but they keep you from traversing where the notches in the turntable can line up with the notches in the indexing gear.

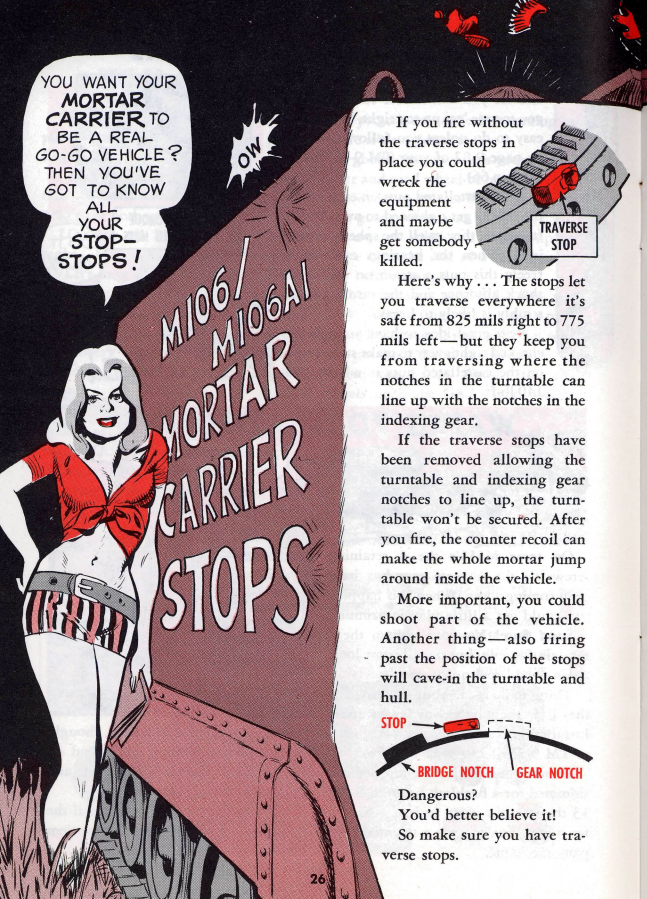
If the traverse stops have been removed allowing the turntable and indexing gear notches to line up, the turntable won't be secured. After you fire, the counter recoil can make the whole mortar jump around inside the vehicle.

More important, you could shoot part of the vehicle. Another thing—also firing past the position of the stops will cave-in the turntable and hull.

Dangerous?

You'd better believe it!

So make sure you have traverse stops.



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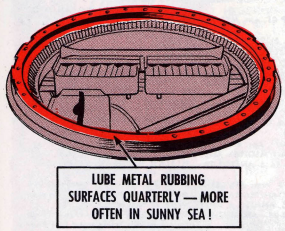
So make sure you have traverse stops.

While you're checking the traverse stops, see if the index gear has a light coat of GAA grease on its top and inside bearing surfaces — not on the teeth!

Some M106/M106A1's have been neglected and the turntable and the index gear have gotten so corroded together the mortar can't be traversed.

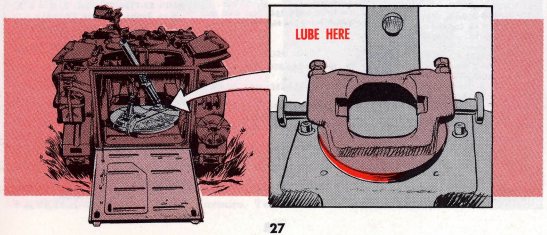


The LO says to lube the indexing gear quarterly. It also says to give the surfaces of the mortar socket that contact the bridge turntable a quarterly greasing.

Fine! But in the sloshy SEA weather, quarterly may not be often enough.

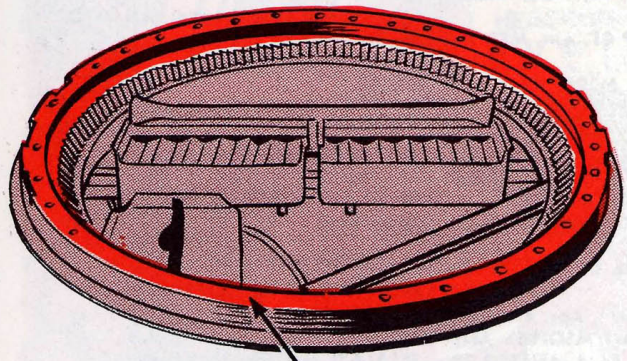
The recoil stop clamp is another kind of stop you need to have in place before you fire your mortar. It'll keep the round from hitting your vehicle even if the shock absorber on the mortar won't work. In case you gotta get a new recoil stop clamp for your M106, it's FSN 1015-508-0175 (8731426) on page 418 of TM 9-2300-224-20P/3 (Nov 64) PART THREE. If all you need are parts, they're on page 417. If you have a M106A1 you'll get your parts from TM 9-2300-257-20P (Mar 69) and the clamp is listed there on page 3-351 with a drawing on page 3-590.

By the way, if you've still got a depression stop assembly (8732403), take it off your mortar and turn it in to supply. With the M84 mortar carrier you needed it, but with an M106/ M106A1 it does nothing useful.



While you're checking the traverse stops, see if the index gear has a light coat of GAA grease on its top and inside bearing surfaces — not on the teeth!

Some M106/M106A1's have been neglected and the turntable and the index gear have gotten so corroded together the mortar can't be traversed.

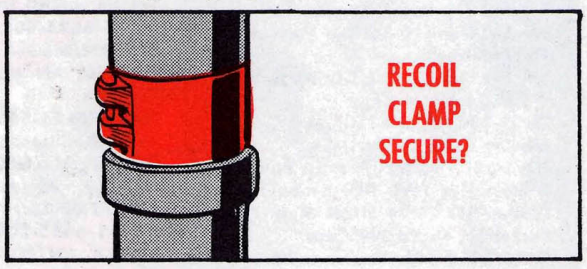


LUBE METAL RUBBING SURFACES QUARTERLY — MORE OFTEN IN SUNNY SEA!

The LO says to lube the indexing gear quarterly. It also says to give the surfaces of the mortar socket that contact the bridge turntable a quarterly greasing.

Fine! But in the sloshy SEA weather, quarterly may not be often enough.

The recoil stop clamp is another kind of stop you need to have in place before you fire your mortar. It'll keep the round from hitting your vehicle even if the shock absorber on the mortar won't work. In case you gotta get a new recoil stop clamp for your M106, it's FSN 1015-508-0175 (8731426) on page 418 of TM 9-2300-224-20P/3 (Nov 64) PART THREE. If all you need are parts, they're on page 417. If you have a M106A1 you'll get your parts from TM 9-2300-257-20P (Mar 69) and the clamp is listed there on page 3-351 with a drawing on page 3-590.



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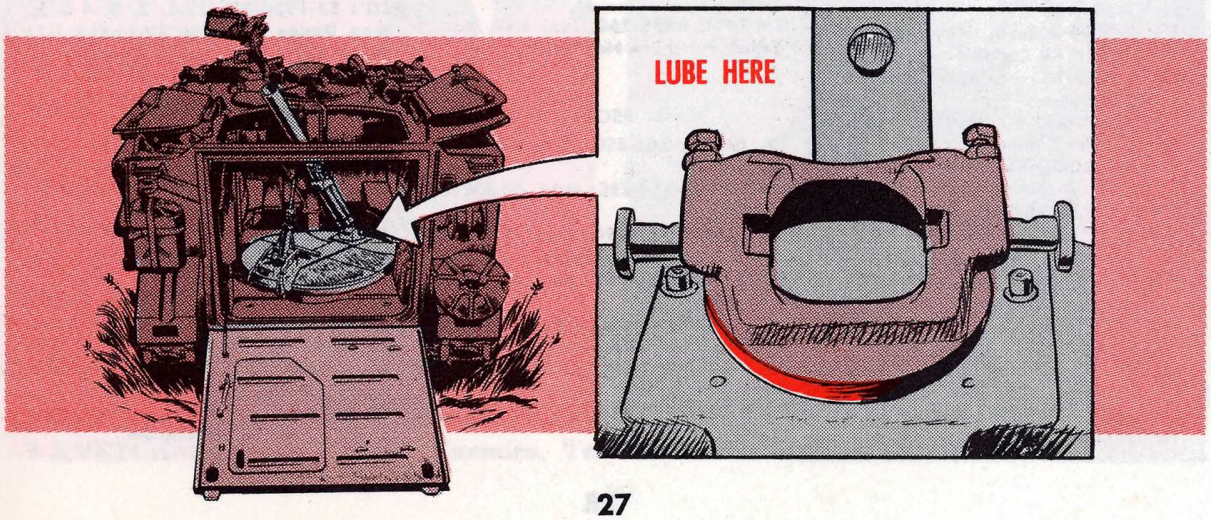
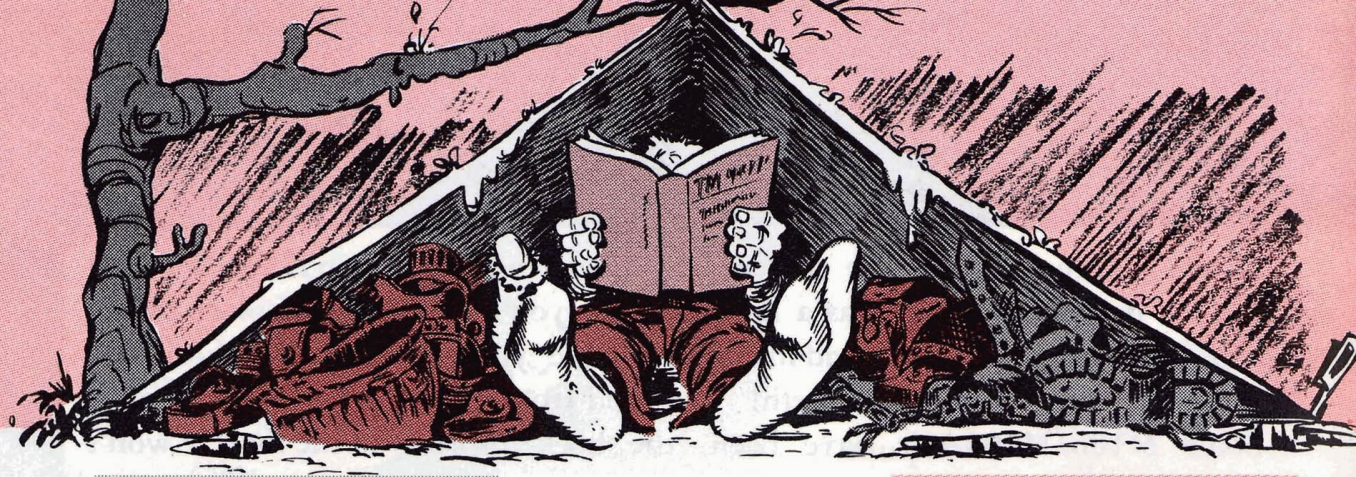




This is a selected list of recent pubs of interest to organizational maintenance personnel. This list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (May 68), and Ch 5 (Apr 69), TM's, TB's, etc.; DA Pam 310-6 (Jul 68), and Ch 3 (Apr 69), SC's and SM's; DA Pam 310-7 (Mar 69), MWO's and DA Pam 310-9 (Apr 68), COMSEC Pubs.

TECHNICAL MANUALS

TM 1-CH54-S C3, Jun, CH-54.
TM 1-OH23C-6 C6, Jun, OH-23.
TM 5-2010-200-25P C1, Jun, 165 HP Outboard Propelling Units.
TM 5-2410-200-10 C1, Jun, Med Tracked Tractors.
TM 5-2410-210-15 C4, May, Med Tracked Tractors.
TM 5-2410-229-12 C1, May, Med Tracked Tractors.
TM 5-3805-232-12 C1, May, Earth Moving Equip Loaders.
TM 5-3805-232-20P, May, Power Shift & Steer Hyd FWD DED Scoop Type Loader: 1⅜ Cu Yd Struck Multi-Purpose Bucket 1½ Cu Yd SAE Cap.
TM 5-3810-202-20, Apr, 20 Ton Trk Mtd Crane-Shovel.
TM 5-3810-206-20P, Apr, 40 Ton Crawler Crane-Shovel.
TM 5-3810-232-12, Apr, Whl Mtd Crane-Shovels.
TM 5-3895-226-20P, May, 3 Car 2 Whl GED Bitum Heater.
TM 5-3895-283-20P, Apr, 3-10 TPH Whl Mtd Bitum Drier-Mixer.
TM 5-4110-203-15 C2, Apr, 9,000 BTU Panel Type Refrig Unit.
TM 5-4210-202-10 C3, May, Fire Fighting Equip.
TM 5-4120-268-15, May, Floor Mtd 36,000 BTU Air Conditioner.
TM 5-4120-285-15, Apr, 18,000 BTU Air Conditioners.
TM 5-4120-292-15, May, 60,000 BTU Skid Mtd Air Conditioners.
TM 5-4120-309-15, Apr, Elec Mtr 6,000 BTU Air Conditioners.
TM 5-4310-225-25P, May, 100 PSI GED 55 CFM Air Compressors.
TM 5-4310-241-20P, May, Hand Trk Mtd 175 PSI 5 CFM Air Recip Compressor.
TM 5-4310-250-15, C2, Jun, 250 CFM Air Compressors.
TM 5-6115-230-20P, Apr, 60 KW 60 Cyc Gen Sets.
TM 5-6115-238-10 C2, May 60 KW 60 Cyc Gen Sets.
TM 9-2320-245-20P, May, M113 Carrier XM706, XM706E1, XM706E2 Light Armored Car.
TM 9-2320-247-20P, May, M548 Cargo Carrier.
TM 9-2350-215-10 C6, May, M60/M60A1 Tanks.
TM 9-2350-242-20P C1, Apr, M88 VTR.
TM 9-3064 C6, Jun, M29E1 81-MM Mortar.
TM 9-4931-334-14P, May, XM163 20-MM Gun.
TM 9-4931-334-14/2, May, XM163 20-MM Gun.
TM 10-3930-233-20P, May, Gas Forklift Truck.
TM 10-3930-242-12 C1, Jun, Rough Terrain Forklift Truck.
TM 11-6625-502-10/1, Apr, AN/FSQ-34, AN/MSG-4, AN/MSQ-18, AN/MSQ-40, AN/MSQ-56 & AN/TSQ-38 Test Sets.
TM 11-6625-555-15, Mar, AN/USM-182A Oscilloscope: AN/FSA-25, AN/GSA-37, AN/GSG-5, AN/GSG-6, AN/MSQ-18, AN/MSQ-28, AN/MSQ-56 & AN/TSQ-38.
TM 11-6665-209-15 C5, May, AN/PDR-27, AN/PDR-27J Radiac Equip.
TM 55-1520-218-20PMD C1, May, UH-1A-1B.
TM 55-1520-219-20PMD C1, May, UH-1A-1B.
TM 55-1925-201-20P, May, 45 Ft 200 HP Dsl Design 320 Tug.
TM 55-1930-205-20 C2, May, LARC-V Lighter.
TM 55-6605-261-15, Mar, Mark 27 24 V Gyro Compass.
TM 750-145, May, ENTAC Retrograde.
TM 750-146, May, M22 & SS-11B1 Retrograde.
TM DPSC 6525-260, Jun, Med Mat Repair Parts Pam No. 260.

ESC'S

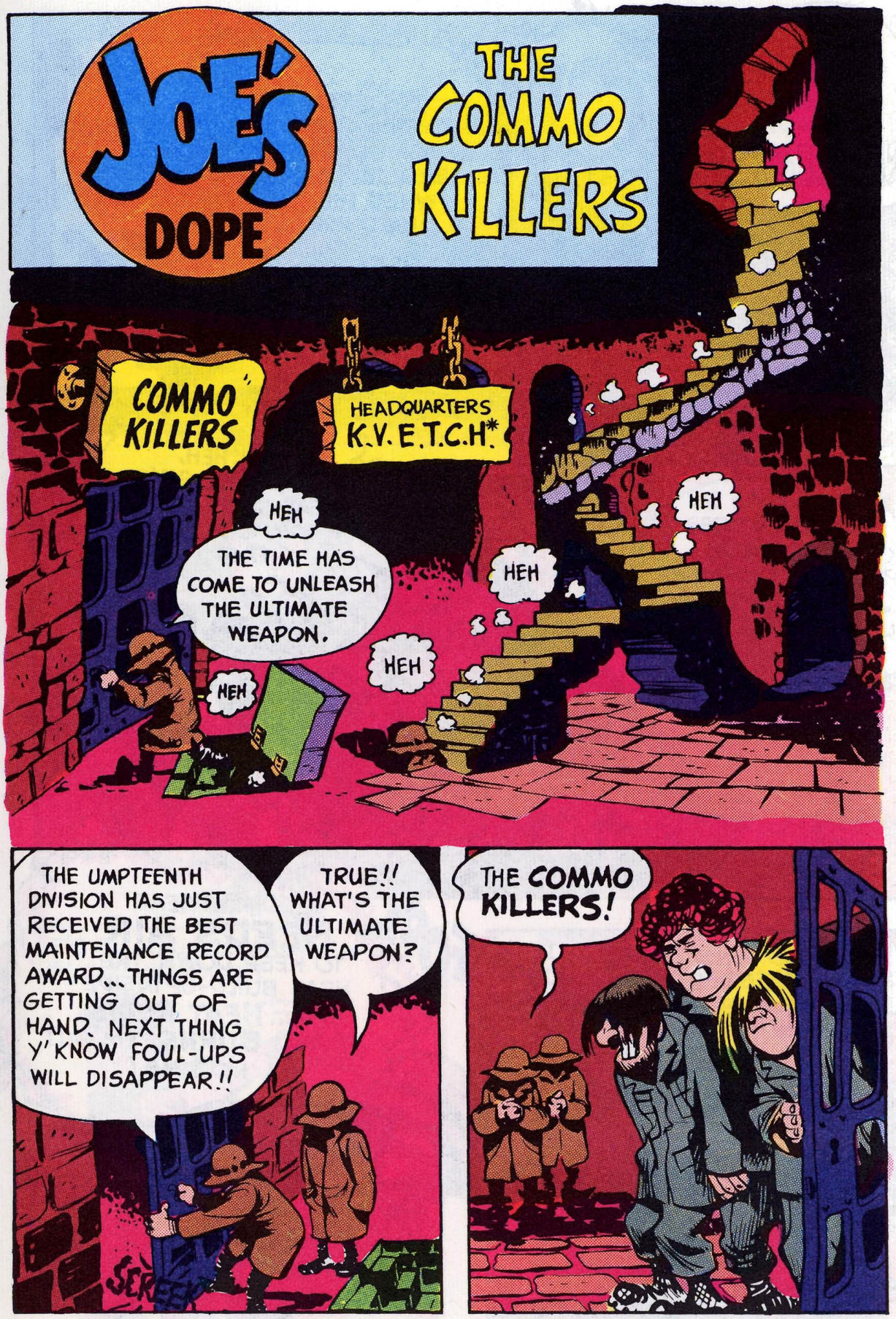
TM 3-4230-203-ESC, Apr, M9 Decon App.
TM 5-6100-214-ESC, May, 60 KW 60 Hz Gen Sets.
TM 9-1005-247-ESC, May, M2 Helicopter Armament Subsystem.
TM 9-1015-234-ESC, Mar 69, M102 Howitzer.
TM 9-1430-560-ESC, Mar 69, Air Defense FDS AN/TSQ-51.
TM 9-2320-211-ESC, Jan 69, 5-Ton Trucks.
TM 9-2320-230-ESC, Dec 68, 8x8 Trucks.
TM 11-1510-202-ESC, Apr, O-1A, O-1E.
TM 11-5820-401-ESC/1, Apr, AN/VRC-12 Radio Set.
TM 11-5820-401-ESC/3, Apr, AN/VRC-43 Radio Set.
TM 11-5840-208-ESC, Apr, AN/MPQ-4A Radar Set.
TM 11-5840-252-ESC, Jun, AN/FPS-71.
TM 11-5840-263-ESC, Jun, AN/FPA-16.
TM 11-5840-296-ESC, Jun, AN/FPS-69.
TM 11-5895-274-ESC, Jun, AN/GSG-5.

MODIFICATION WORK ORDERS

MWO 9-2320-224-20/10, Jun, M114/M114A1 Carrier.
MWO 9-2330-272-30/1, Jun, M131A3C Fuel Serv Tank Semitrailer.
MWO 10-1670-206-30/5, Jun, Replace Quick-Fit Type Connector Link Assys on 24 Ft Dia Pers Parachute used w/MK-J5 Eject Seat.
MWO 10-3930-242-20/1, Jun, Rough Terrain Forklift Trucks Instal Fuel Pressure Switch Magnetic Switch Starter Button Switch.

MISCELLANEOUS

DA Cir 310-80, Jun, Mil Pubs.
FT 105-H-6-WC, Apr, M52/M52A1 105-MM Howitzers.
FT 105-H-6-WC, Apr, M101/M101A1 Towed Howitzer.
LO 5-4930-227-12, Apr, Liq Dispen Tank & Pump Unit for Truck Mtg Highland Ind 2000 w/Wisc Eng MKBND.
LO 5-6115-425-12, May, 45 KW 400 Cyc Elec Gen Equip Gen Sets.
LO's 55-1930-206-12-1, 2, 3, 4 & 5, May, Design 8004 Larc XV Lighter.
SB-11-622, May, Maint Concept Change Affecting Log Spt for AN/PRR-9, AN/PRT-4, AN/PRT-4A & Use of Jiffy Bags.
SC 3820-97-CL-E11, Apr, 600 CFM Comp Air Pneu Tool Outfit.
SC 5180-8-CL-A14, May, Med Equip Maint & Repair Tool Kit.
SC 5420-97-CL-E06, May, 3,000 Ft Double Revers Bicable GED Aerial Tramway Set.
SC 5420-97-CL-E22, Apr, Fixed Bridge Conversion Set: Through Truss Vertical End Posts.
SC 5420-97-CL-E28, Apr, Alum Floating Foot Bridge.
SC 6675-97-CL-E04, May, Photomapping Co Topo Bn Drafting Set.



* KVETCH (Killers, Villains, Enemies, Terrible Collection of Humans)

THIS IS SLOPPO... HE KILLS BY NEGLECT!
HE'S GREAT AT LETTING DRY BATTERIES CORRODE AND RUIN GEAR ...AS YOU KNOW BATTERIES TEND TO LEAK AND SWEAT WHEN THEY'RE NOT USED FOR A WHILE.
WHEN THEY'RE ENCASED IN A PIECE OF EQUIPMENT ...IT JUST SPEEDS UP THE PROCESS!
HEH, HEH, HEH, THAT CORROSIVE SWEAT SURE BEATS UP COMMO EQUIPMENT FAST.
HE'S ALSO SENSATIONAL ABOUT NEGLECTING FILTERS!
I DON'T SEE HOW THAT HURTS!
FOOL
COMMO GEAR NEEDS AIR TO KEEP DOWN THE HEAT BUILD-UP INSIDE 'EM... HEAT RUINS AND BURNS 'EM OUT IN NO TIME!

THIS IS URK... HE'S SO SMART HE'S IGNORANT

STARTS UP HIS ENGINE WITH THE RADIOS ON— ZAPS OUT RADIOS BY THE TON.

HE ALSO THINKS HE'S A BOY ELECTRONIC GENIUS... SO EVERY CHANCE HE GETS HE MAKES UNAUTHORIZED MODIFICATIONS AWRK RUINS EQUIPMENT LIKE MAD.

NEXT IS GNASH A MUSCLE-MAN... HE DESTROYS

CRUNCH

HE TWISTS KNOBS AND DIALS LIKE CRAZY.

HE SHIPS FRAGILE ELECTRONIC STUFF UNPROTECTED.

HE'S ALL THUMBS WHEN HE HANDLES DELICATE EQUIPMENT

CLANG CRINKLE CLANCH

MEANWHILE

HEH, HEH

DO YOU HEAR A TAPPING SOUND ...LIKE SOMEONE NAILING UP A POSTER OR SOMETHING?

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULL

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

QUIPMENT... *Take care of it*

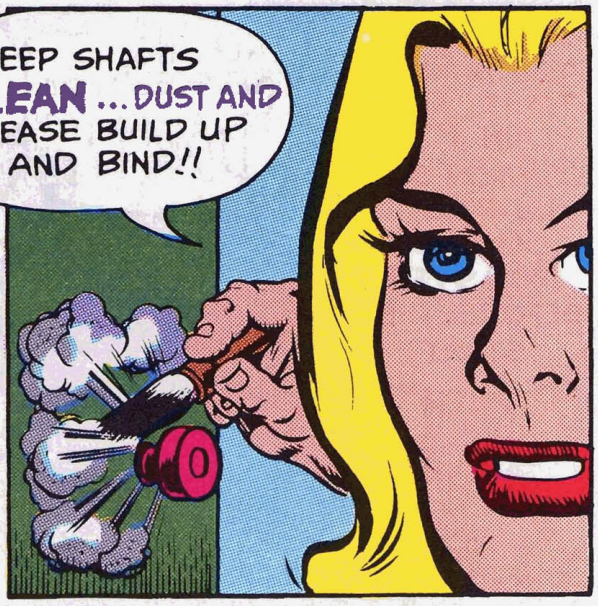
LETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

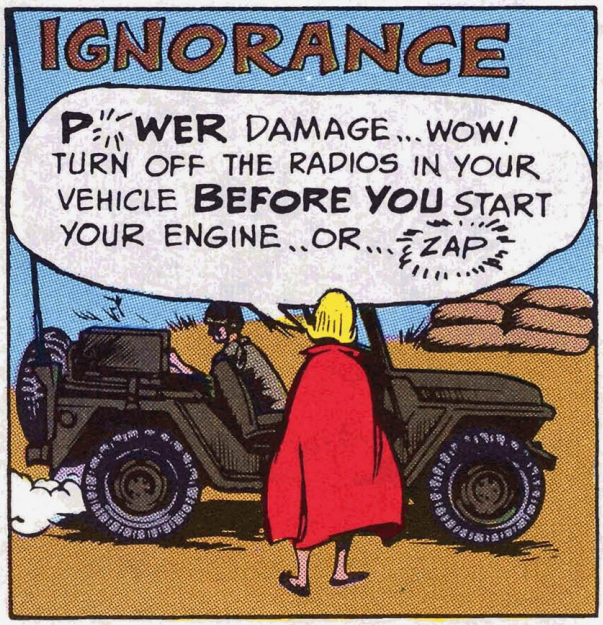
STOP... I CONNIE RODD, HAVE COME TO SAVE THE DAY!!
NEGLECT
BY JUST PAYING A LITTLE ATTENTION TO YOUR POWER SOURCE YOU CAN AVOID TROUBLE!
WHEN EQUIPMENT IS GOING TO BE IDLE FOR A DAY OR MORE REMOVE DRY BATTERIES UNTIL NEEDED!!
AND KEEP FILTERS CLEAN ESPECIALLY IN HOT, DUSTY... OR VERY HUMID AREAS... DO IT OFTEN! USE COMMON SENSE SCHEDULES!
I TOLD YOU I HEARD A TAPPING NOISE

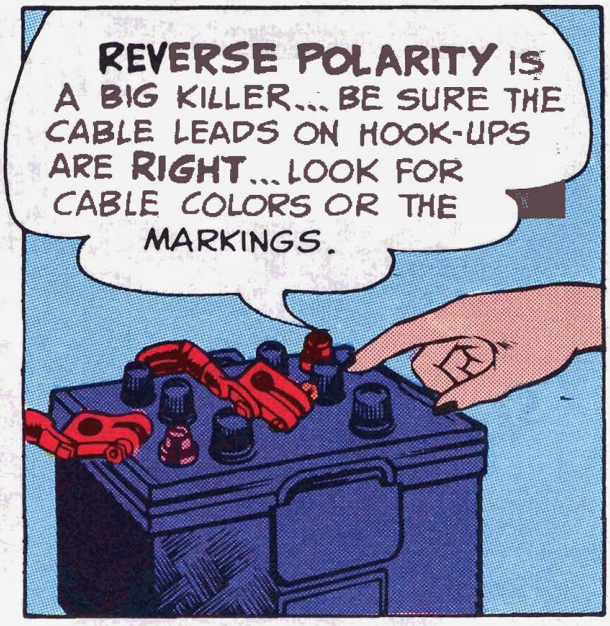
ROUGH HANDLING
PROTECT YOUR COMMO GEAR WHEN YOU MOVE IT OR SEND IT BACK FOR REPAIR!

USE OLD BATTING, DUNNAGE ... SALVAGE FOAM OR AN OLD MATTRESS IF YOU CAN SCROUNGE ONE

TWISTING KNOBS!! UGH!!... WHEN YOU FEEL RESISTANCE STOP!... OR YOU'LL BUST THE THING!
STOP

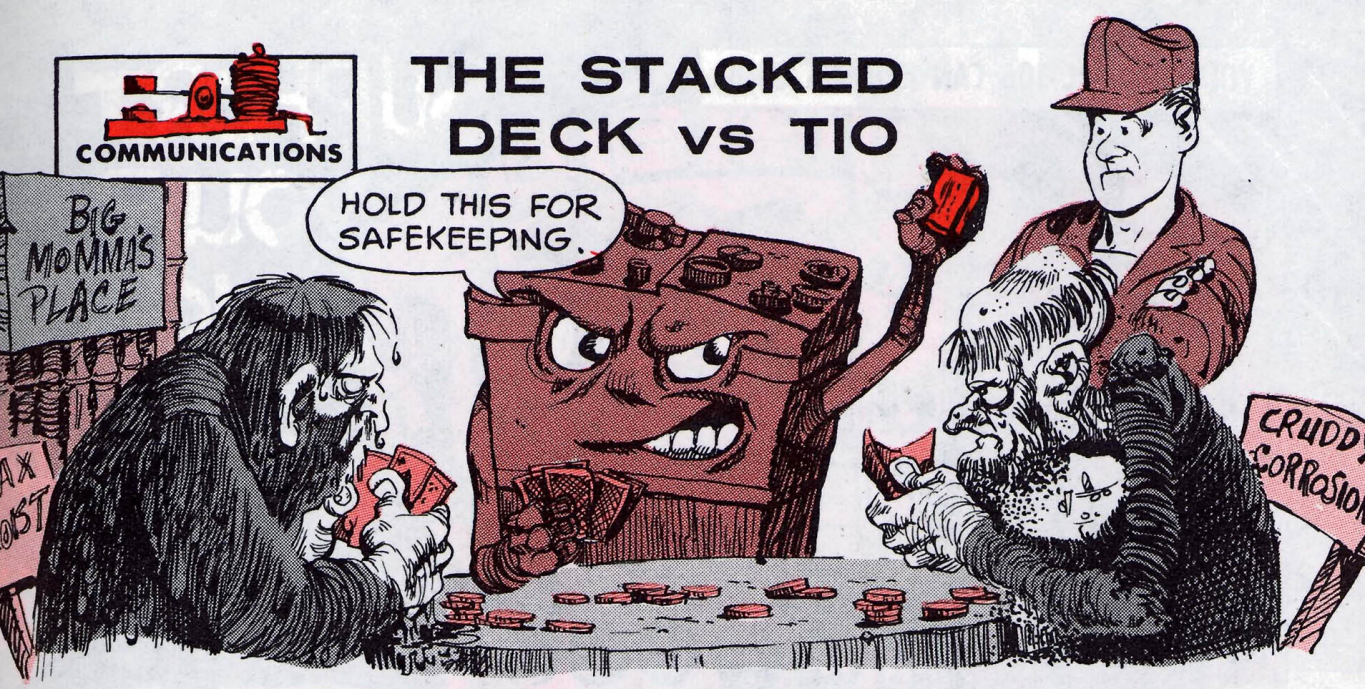

KEEP SHAFTS CLEAN ... DUST AND GREASE BUILD UP AND BIND!!


IGNORANCE
POWER DAMAGE...WOW! TURN OFF THE RADIOS IN YOUR VEHICLE BEFORE YOU START YOUR ENGINE..OR...ZAP


REVERSE POLARITY IS A BIG KILLER... BE SURE THE CABLE LEADS ON HOOK-UPS ARE RIGHT... LOOK FOR CABLE COLORS OR THE MARKINGS.

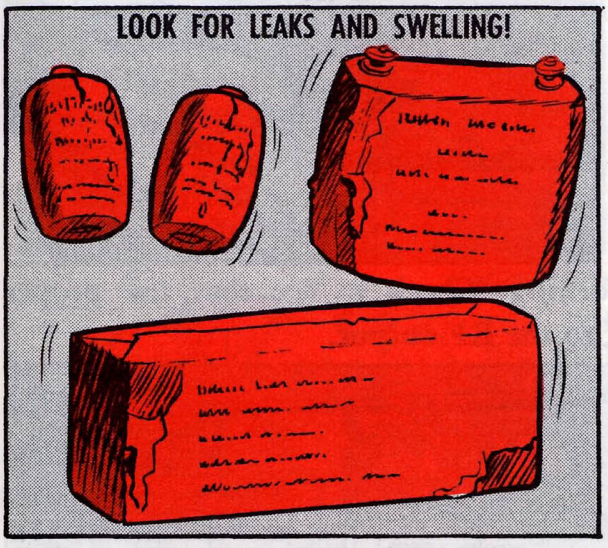
IF YOU'RE NOT SURE ABOUT A HOOK-UP... LOOK AT THE CABLE DIAGRAMS IN DASH-12 AND DASH-20 TM'S...
...OR CHECK WITH SUPPORT WHEN YOU HAVE A SET WHERE THE MARKINGS ARE NOT CLEAR OR WORN OFF!
...AND THAT'S ALL THERE IS TO IT...JUST PLAIN PM AND COMMON SENSE WILL STOP THESE SO-CALLED MONSTERS BEFORE THEY START!
NO...NO, DON'T FELLERS, DON'T!
YOU MEAN WE'RE NOT REALLY MONSTERS!
...JUST VICTIMS OF BAD HABITS?
WE'VE BEEN --FOOLED-- BY KVETCH!!
OUCH
OUCH! HOW'D WE KNOW CONNIE WAS GOING TO GET INTO THE ACT!!
OUCH
SLAM
POW

THE STACKED DECK vs TIO



In SEA Big Momma shuffles the cards, stacks the deck and invents the house rules.

Try sittin' in the game with your own rules and you'll be humming "The Dry Battery Blues" faster'n sweat turns salty.



First off, Big Momma also goes by "Dame Nature." She makes things grow, like corrosion. She creates things, like moisture. She eats dry batteries like ice cream. Dry battery corrosion eats at, and destroys equipment unendingly. As soon as the battery develops a leak, or starts to sweat, corrosion begins.

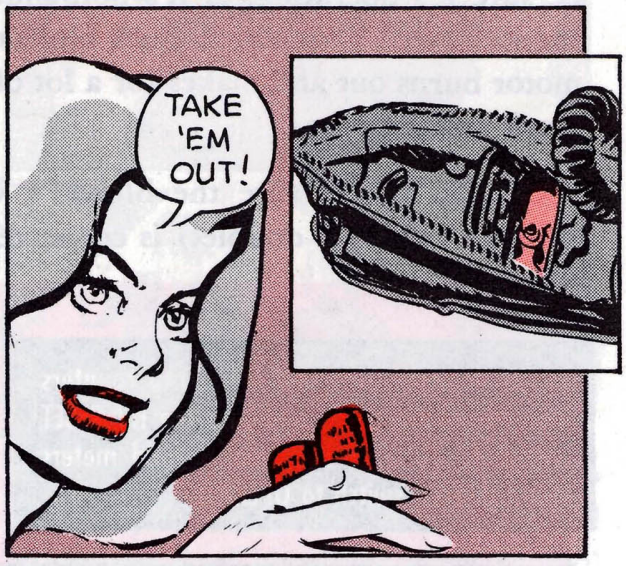
You gotta make it by her house rules, or you ain't gonna make it.

You got the card to win with, so let's make this hand the "dry battery pot, no limit."

Play your Big Card anytime you want. Call it TIO, uncle.

So wot is TIO?

Take It Out!



Take the battery out of your radio, your test set, your 'phone set or whatever else it's in . . . whenever you're not gonna use it for a day or so.

So deal the cards.

YOUR AN/GRC-106 CAN KEEP ITS COOL

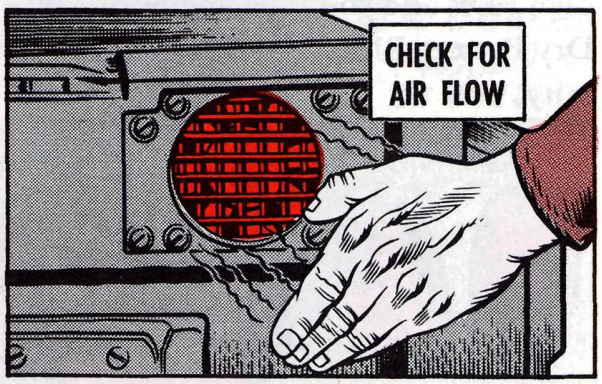
SUPPORT YOUR ANGRY FRIEND

You gotta know it, operator man. You are the biggest thing going for your **AN/GRC-106** radio set.

You can break its back . . . or make it sing the good song.

Here's a thing or three that'll keep your radio set putting out like the generous and good piece of equipment it is:

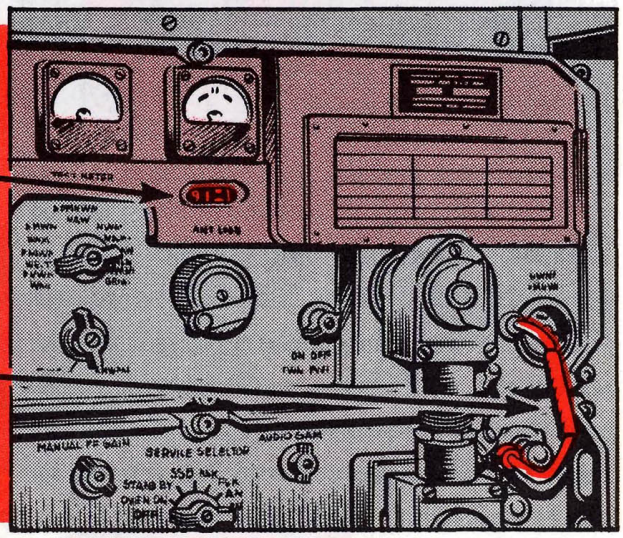
When you turn on the PRIME/POWER switch of the AM-3349 amplifier, put your hand over the blower to be sure it's operating. If it's not, shut the set down . . . quick! A stuck blower motor burns out and makes for a lot of work and expense.



OK. So you're sure the blower's working. Check to see that the proper antenna (whip or doublet) is connected to the RF output.

Set the ANT TUNE and ANT LOAD counters per the tuning chart, and turn the HV RESET switch to TUNE. If the tune or load meters don't deflect, switch to OPERATE.

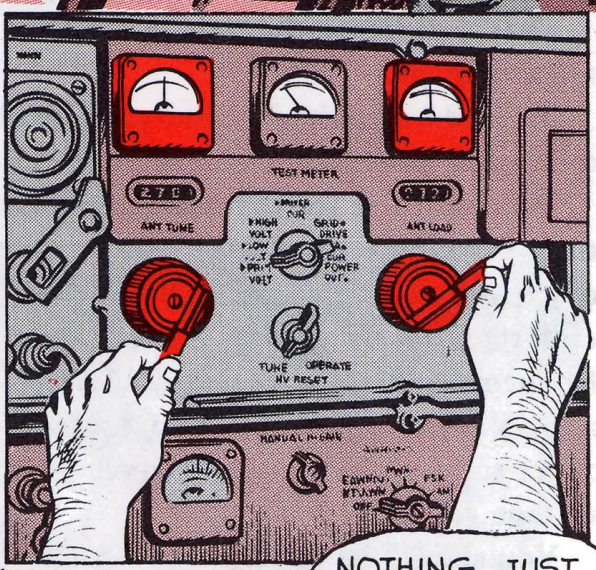
Check your RF DRIVE cable (CG-409) at both the amplifier and the RT-662 to be sure the connectors are twisted fully into place. Also, the pins may be broken.

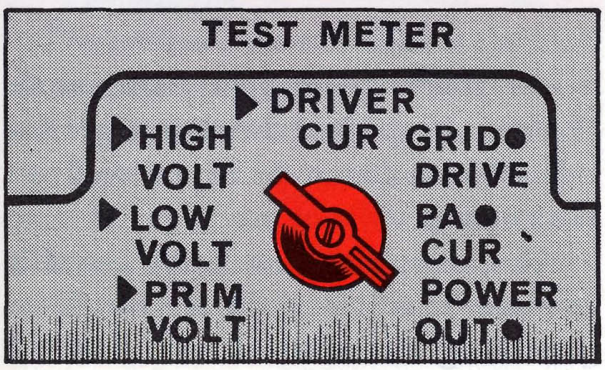


Look over your antenna connections for a loose one, a short, or broken leads.

So, your meters are deflecting and you're ready to tune.

Turn the HV RESET switch to TUNE, and start with the ANT LOAD and ANT TUNE counters at the position recommended on your tuning chart. With your left hand on ANT TUNE and your right on ANT LOAD, turn the controls in the opposite direction of their needle deflections . . . until you get the desired center scale reading on each meter.





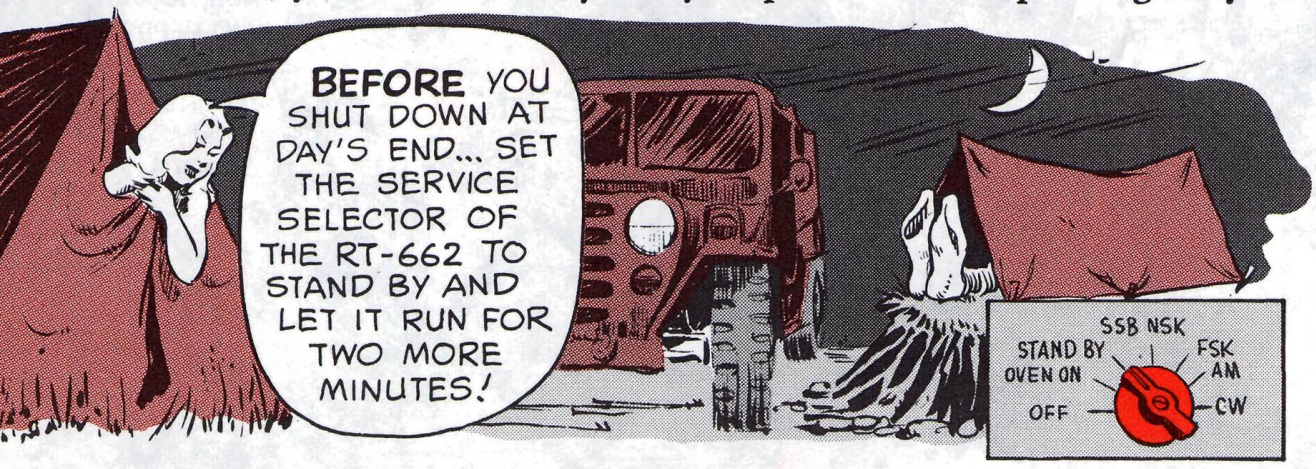
If the needles don't center in two minutes, switch to OPERATE and allow the final amplifier tubes to cool for a few minutes. Then, try again. If the meters still don't center, call your repairman.

Once the meters center, check for POWER OUT with the TEST METER.

PS MORE

When you get the desired scale readings, the set is ready to operate. So-o-o-o, switch back to OPERATE mode . . . and make sure you've allowed about a minute for the set to warm up before you transmit.

Otherwise, you'll more'n likely kiss your plate trimmer capacitor goodbye.



That'll dissipate the heat in the final amplifier . . . and thereby prevent transistor damage.

In an emergency, naturally, there's not much you can do but shut it down quick and take your chances.

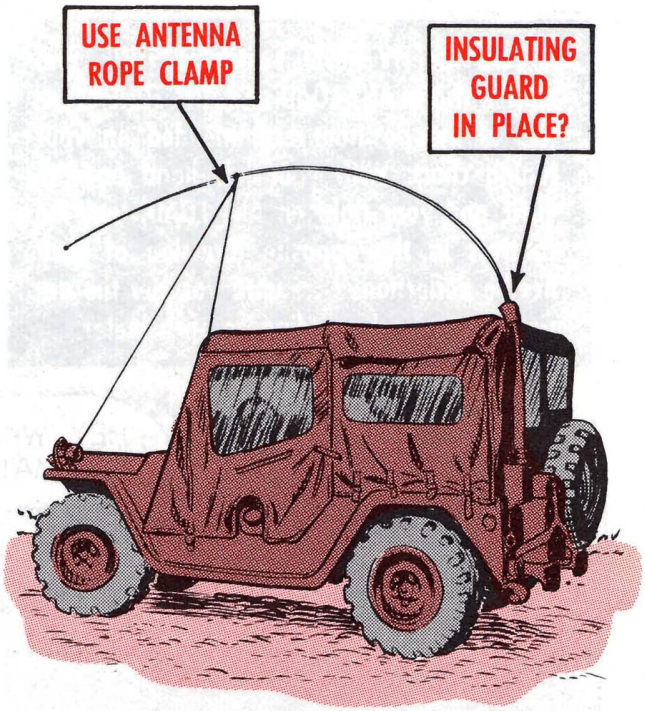
'Nother killer for the final amplifier tube is voltage overload. There's not much you can do about it, but if your unit repairman's getting put out over frequent replacement of your 2A1A1V1 and -V2 PA tubes, tell him to have direct support check out your vehicle's voltage regulator.

You should be feeding your Angry-106 a maximum 28 volts. Higher voltage can shorten the expected 500-hour lifespan of your PA tubes to less than 100.

Excess voltage is a transistor buster, as well as a PA tube killer. The best operation is when voltage is adjusted to within .2V of 28V.

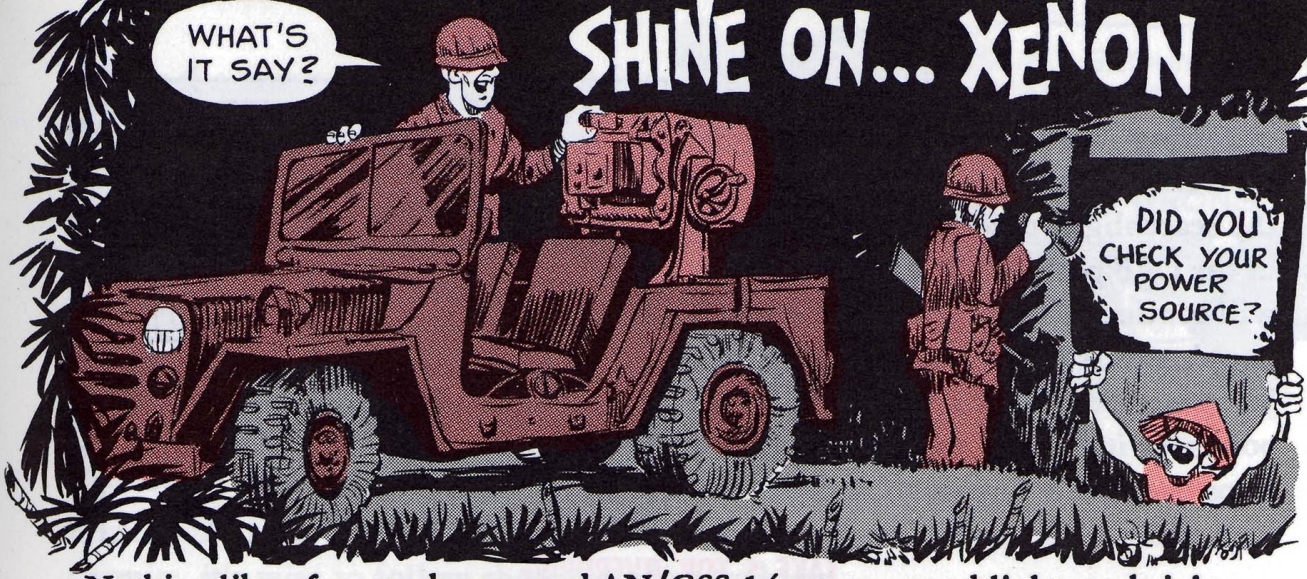
Coupla' other ways you can help yourself and your repairman:

Always use a nylon or rope tie-down for your antenna. A wire tie-down shorts out your whip . . . giving you obvious problems.



Use your antenna rope clamp to tie it down. If you lose the clamp, get another. Never fasten the rope directly to the antenna.

Also, be sure the insulating guard is in place. That'll keep the antenna from grounding on the vehicle.

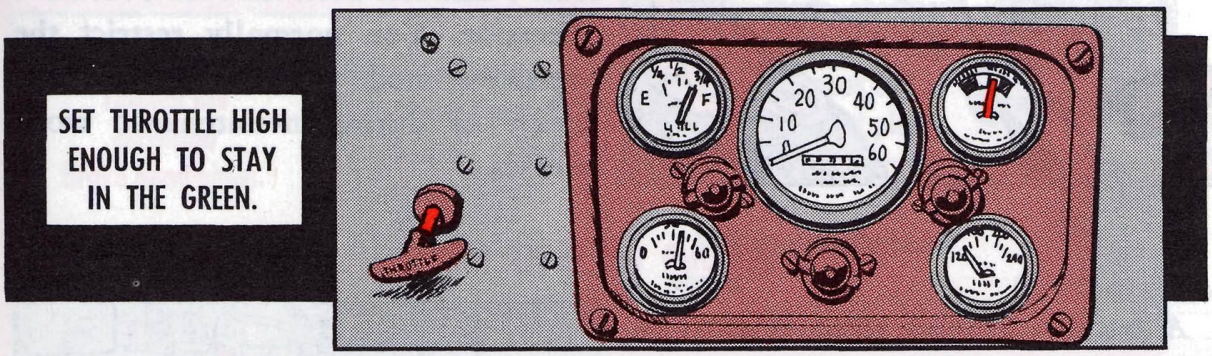


Nothing like a few truck-mounted AN/GSS-14 xenon searchlights to brighten the night while you're standing perimeter guard.

But their power to throw a lot of light on the subject — the enemy — won't last long without your following some important PM cautions.

IT DRAWS A LOT

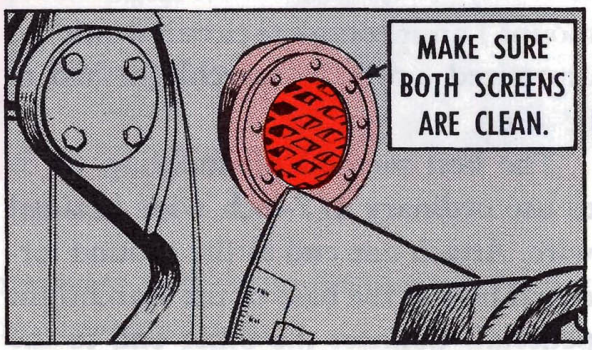
Basic power source for your oversize flashlight vehicle is the M151A1 1/4-ton truck's engine. The engine has to produce a steady 5.5 HP to keep the vehicle's 180-amp generating system charging properly.



So the first rule of caution is to keep the searchlight off until you adjust the throttle setting high enough to keep the battery-generator indicator needle in the green. If the main power switch is flipped on with the indicator outside the green, its heavy draw can burn out the system's rectifier.

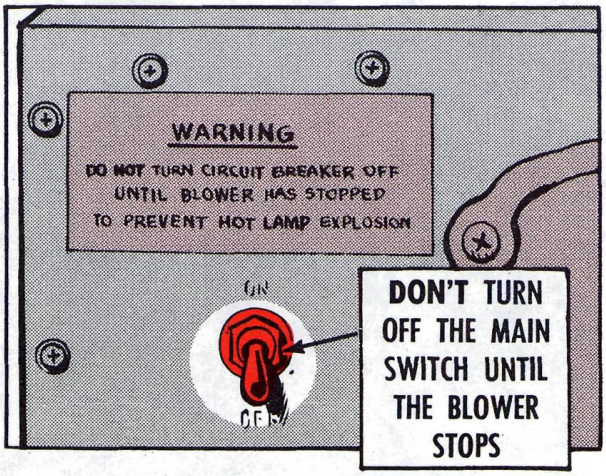
THE BLOWER KEEPS IT COOL

The blower motor circulates the cool air that high-pressure xenon lamp needs to keep it from overheating and exploding. So both the inlet and outlet screens must be kept clean to allow good circulation . . . and the blower motor must be ON whenever the searchlight switch is ON.

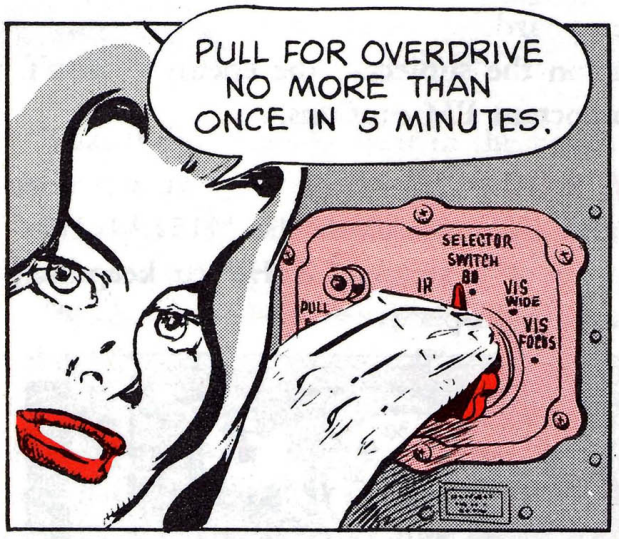


P.S MORE

But when the searchlight has been operating for several minutes, the blower will not stop at the same time the searchlight power switch is placed in the OFF position. The blower motor will continue to operate until the xenon lamp's excess heat has been dissipated. So remember not to touch the main power switch until the blower motor stops itself.



TAKE 5 FOR OVERDRIVE

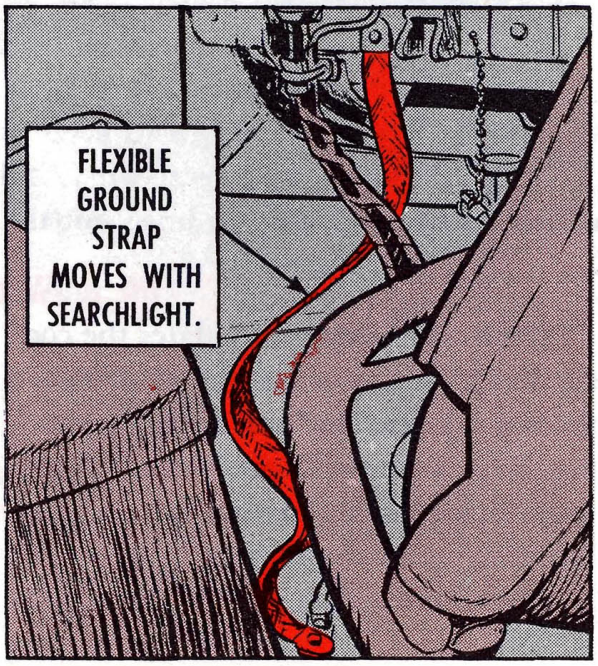


Also remember that placing the searchlight in overdrive increases the intensity of the light by 50 percent for close to 20 seconds. That really puts a drain on the power source and the blower motor. This is why you take at least 5 minutes between each overdrive operation. You normally restrict the overdrive mode for use against the enemy or during maintenance work periods.

DOUBLE GROUND THE OLDER MOUNT

A backup ground strap is security against an unknown break in the power cable running between the searchlight and the truck's generating system. Since the ground wire is wrapped together with the power cable, (you don't have to worry about this on the "A" model mount) an incomplete circuit would go unnoticed until the searchlight had to be used.

The best method of doubling up is to use ordinary 1/2-inch wide braided wire. Attach one end to the ground terminal bolt at the base of the searchlight pedestal. Connect the other end to the



bolt on the lower mounting bracket for the searchlight's control box.

Use the same length of wire (about 2-1/2 feet) as the power cable in order to allow azimuth flexibility for the mount.

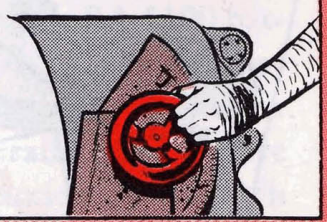
TRAVEL TIME TIPS

Securing the mount before moving out to another operating site protects the searchlight from unnecessary wear and tear during vehicle travel. So when time permits, it's wise to follow these travel procedures.

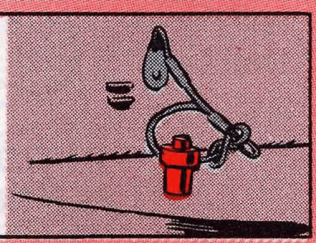
For the newer (A) model of the universal mount:

Level and point light to vehicle rear.

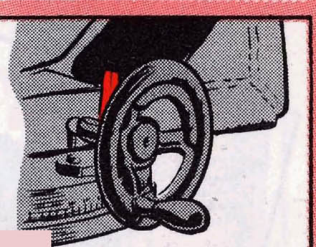
Tighten the elevation brake handwheel.



Engage the azimuth lockpin.



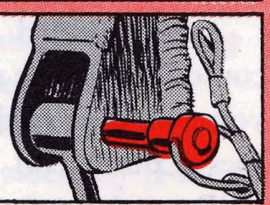
Disengage the azimuth handwheel with the azimuth lever.



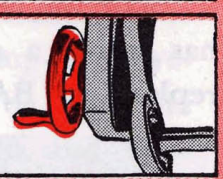
For the old universal mount:

Level and point light to vehicle rear.

Raise shock absorber and insert quick disconnect pin through upper end of shock and bracket plates.

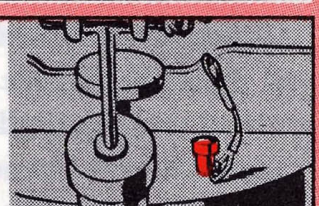


Tighten elevation handwheels.



Tighten knurled handbrake knob by rotating clockwise.

Engage the azimuth lockpin.



CHECK THE TM, TOO

It never hurts to spend a few spare moments with your flashlight's friend: TM 11-6230-219-12 (Jul 67). Helps you remember a lot.

PS END

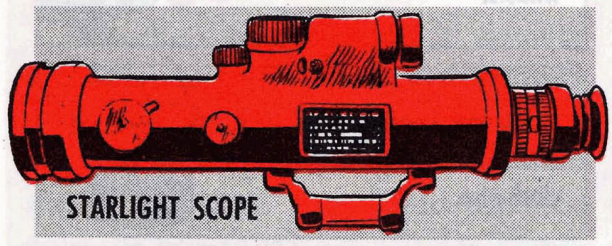
THE STARLIGHT STORY . . .

KEEP YOUR NIGHT

Operator, stay out!

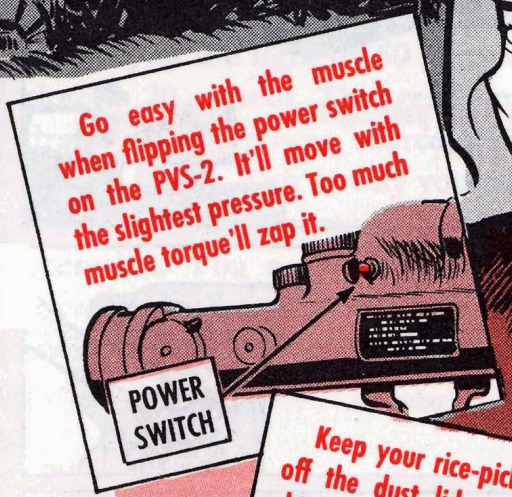
That little rule, if posted on every AN/PVS-1 and PVS-2 starlight scope . . . and minded by every reader . . . could keep more scopes operating than you and your buddies have fingers and toes. Count 'em! Specially the fingers.

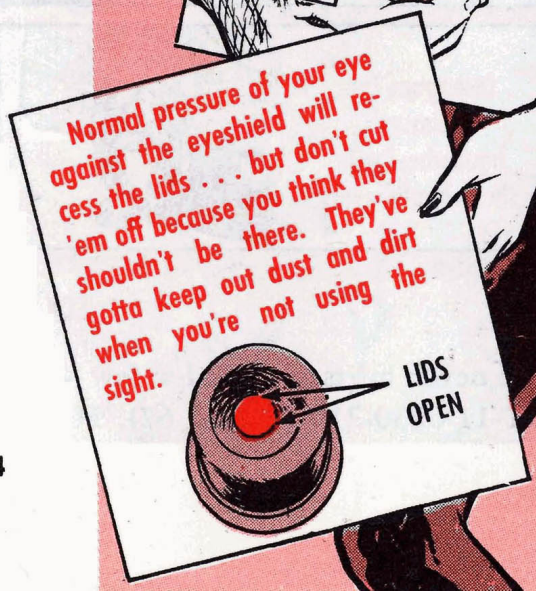
'Bout the only business an operator has inside a night vision sight is to replace the BA-1100/U battery.


STARLIGHT SCOPE

If you're not authorized to repair it, and the sight doesn't work right, get it checked and repaired by a qualified repairman. Good intentions to the nevermind, you can make a little job a big one by trying to fix it yourself.

So, with the bad news out of the way, here're some things you can do to keep your scope away from the repairman:





THE STARLIGHT STORY...

KEEP YOUR NIGHT SIGHT RIGHT

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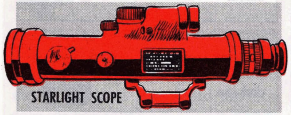

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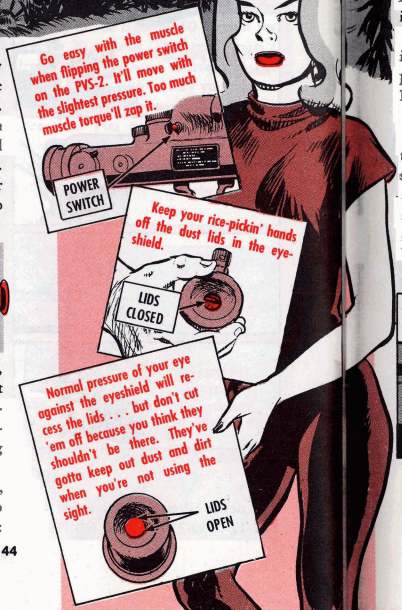


Here's something you can pass on to your repairman:

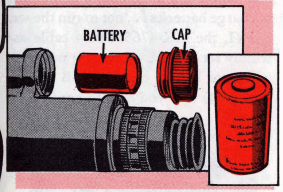
Intensification tubes for the PVS-1 and PVS-2 are not interchangeable.

The MX-7854 tube, FSN 5855-051-2792, goes with the PVS-1. The tube for the PVS-2, FSN 5855-087-2948, has the reticle pattern on the tube itself.

Like, if you put FSN 5855-087-2948 in the PVS-1, you get a double reticle pattern. If you put the MX-7854 in the PVS-2, you get nothing.

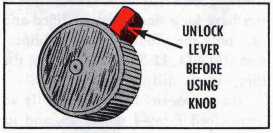
Back to you, operator ol' buddy:

The positive end of the BA-1100 battery has a raised center . . . for night installation ease. The raised end goes in the scope first. Naturally, the negative side is flat. If you accidentally switch ends, well . . . Before you decide the battery's no good, be sure it's installed right.



If you've got the PVS-1, you must unlock the locking lever before you can use the objective lens focus knob.

Naturally, re-lock the lever when



you've focused the objective lens.

If the knob binds after you've freed the locking lever, sand, dirt or other crud may be the bad guys. Which means it's time for a cleaning. You can bust up the objective lens housing by forcing the knob, so resist the temptation.

Some quick ways to clear up the objective lens or eyepiece assembly if they should get fogged from humidity or temperature change: Pump the eyeshield several times. . . . or take the shield and/or lens cap off and wipe them with a clean rag.

Here's a quickie reminder or two for anyone who forgot previous PS tips:

Handle your scope gentle-like. It's not a football; it won't bounce if you drop it, and rough handling can put it (maybe you, too) out of business.

Keep it dry, including the lens. If the sight's cased and stored, open it regularly and sop up the moisture.

Never expose the uncovered lens to bright light (headlights, sunshine, etc.). You can zap it back to depot with that technique.

SIGHT RIGHT

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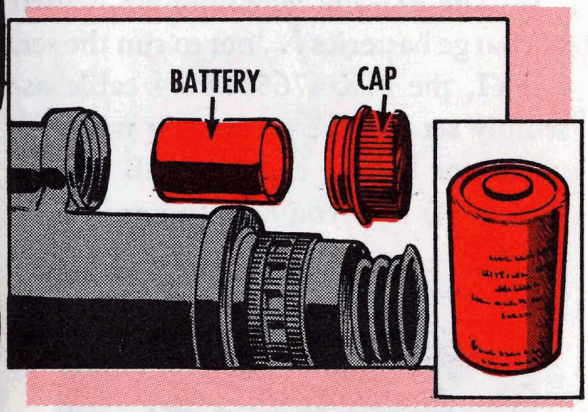
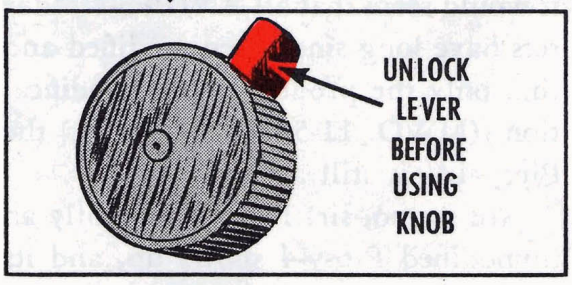


If you've got the PVS-1, you must unlock the locking lever before you can use the objective lens focus knob.

Naturally, re-lock the lever when you've focused the objective lens.



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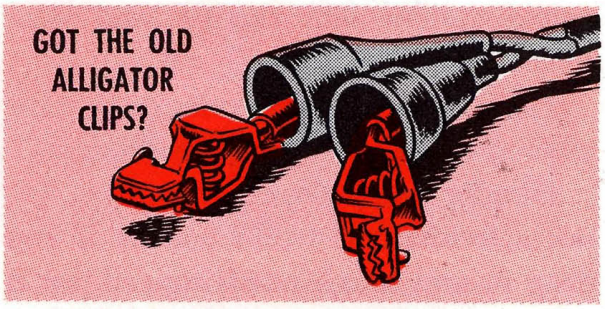
POWER FOR A PIPSY-4

Along about this part of the century it would seem that all AN/PPS-4 radar sets have long since been modified and that only the product of the modification (MWO 11-5840-211-45/1), the Pipsy-4A, is still around.

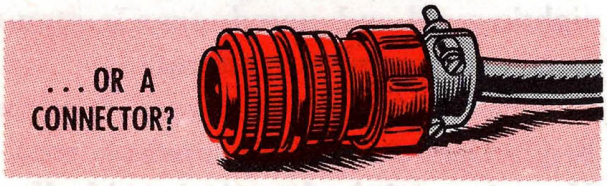
Not so; no, sir! Not infrequently an unmodified Pipsy-4 shows up, and its positive ground versus the negative ground of the -4A poses a problem.

Said problem is compounded by two conditions:

No. 1, you've gotta need an emergency power source, and No. 2, your power cable might still have the old alligator clips. Couple those with the positive ground, and big trouble can brew. The Pipsy-4's ground lead must go to the positive post of the power sources.



Now, if you've got a connector on the end of your power cable, read some-



thing else. The connector's built to go on right.

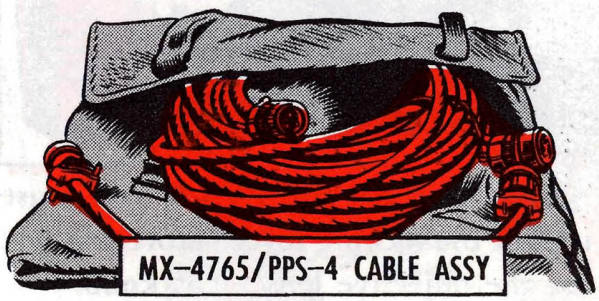
If you've got alligator clips and you anticipate an extreme emergency where you'd use something other than the Pipsy-4 and -4A's ideal power source, the BB-422 nickel cadmium battery, read on:

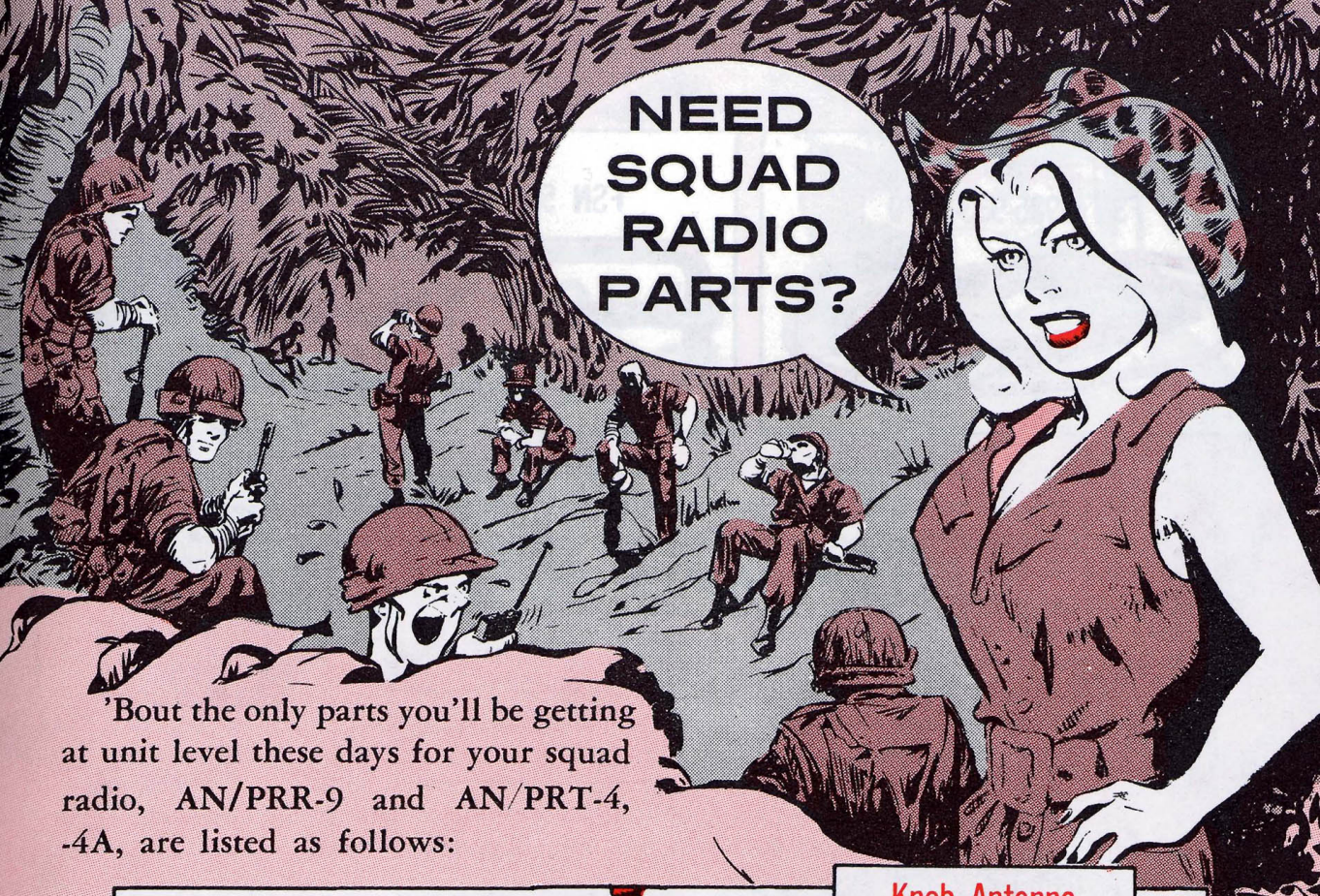
Your emergency power source must put out exactly 24 volts. No more, or you'll severely damage your set.

If you're not sure whether you've got a -4 or -4A, there are decals in easy-to-see areas which tell you MWO 11-5840-211-45/1 has been applied, making it the -4A.

A repeat caution: Only in an emergency would you hook up your Pipsy-4 or -4A to anything other than the BB-422. The PU-532 generator set is used to charge batteries . . . not to run the set.

FYI, the MX-4765/PPS-4 cable assembly set has the cables you need for generator battery charging. SB 11-506 (3 Sep 64) tells you how to get it.





'Bout the only parts you'll be getting at unit level these days for your squad radio, AN/PRR-9 and AN/PRT-4, -4A, are listed as follows:

AN/PRR-9

Antenna Assy.
AS-1998/PRR-9
FSN 5985-926-2590

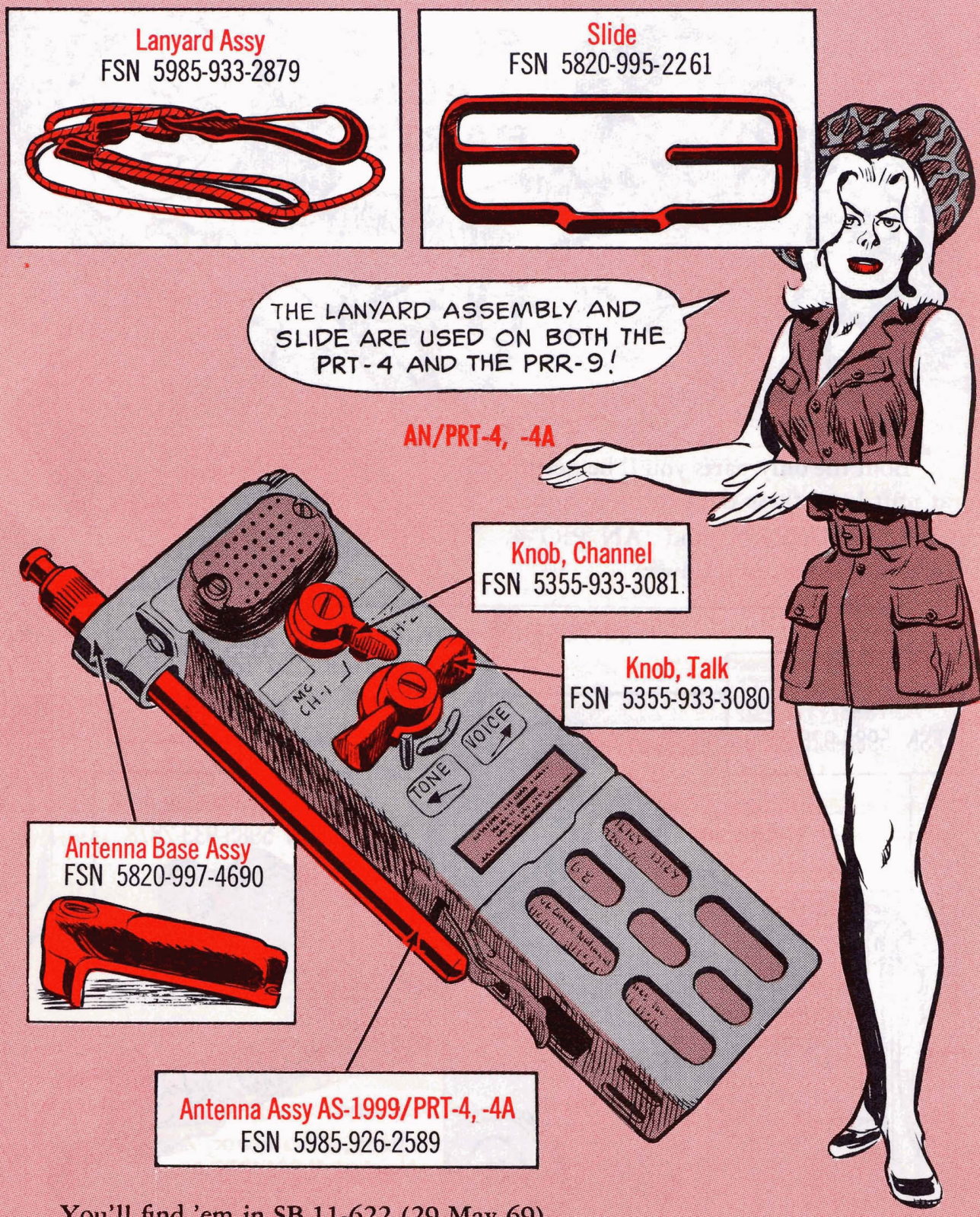
Knob, Antenna
FSN 5355-933-2865

Antenna Housing Assy.
FSN 5985-933-2878

Headset, H-264/PRR-9
FSN 5965-926-2591

Knob, Switch
FSN 5355-933-2666

PS MORE



You'll find 'em in SB 11-622 (29 May 69).

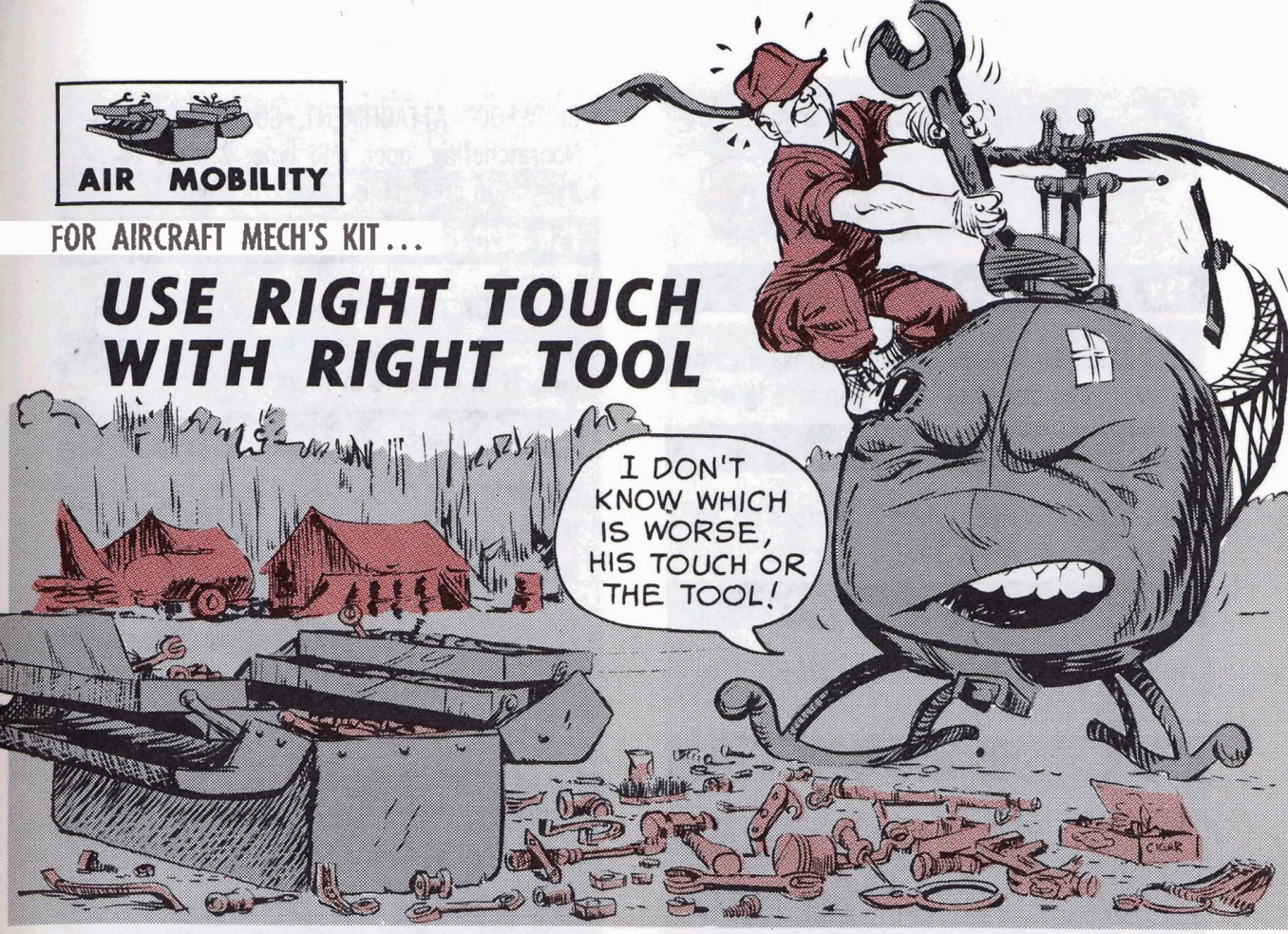
All other parts will be available at direct support level and above. If you've got any other parts in stock, you gotta turn 'em in to Lexington-BlueGrass Army Depot as per SB 11-622, which fills you in on pre-addressed "jiffy bags".

You get 'em from direct support.

AIR MOBILITY

FOR AIRCRAFT MECH'S KIT...

USE RIGHT TOUCH WITH RIGHT TOOL



Before you grab your General Aircraft Mechanic's Tool Kit (FSN 5180-323-4692) to give that airframe that tender lovin' touch with your tools, make sure you have the right tool for the right job.

Like, keeping your tool set up to snuff takes a little extra effort with the changing needs for tools for specialty work.

Be sure your tool kit matches up with those items listed in SC 5180-99-CL-A01 (Mar 69).

To give you a hand on those handy tools, feast about on this spread of tool stock number and description goodies.

If some of 'em don't look exactly like these, don't sweat it. Just be sure they'll do the trick.

GENERAL AIRCRAFT MECHANIC'S TOOL KIT.
FSN 5180-323-4692

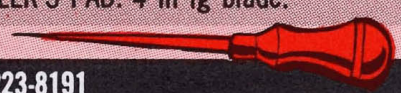
ADAPTER, SOCKET WRENCH: ⅜ in sq male end, ¼ in sq female end.

FSN 5120-224-9219

ADAPTER, SOCKET WRENCH: ½ in sq male end, ⅜ in sq female end.

FSN 5120-240-8703

AWL, SADDLER'S PAD: 4 in lg blade.



FSN 5120-223-8191

BIT, SCREWDRIVER: Flat tip, ¼ in male hex drive, 3/16 in w tip, 1½ in lg o/a.

FSN 5120-293-2057

PS MORE

BIT, SCREWDRIVER: Flat tip ¼ in male hex drive, ⅜ in w tip, 1 in o/a.

FSN 5120-690-7273

BIT, SCREWDRIVER: Phillips type cross tip, no. 1 size, ¼ in male hex drive, 1 in max lg o/a.

FSN 5120-223-6971

BIT, SCREWDRIVER: Phillips type cross tip, no. 2 size, ¼ in male hex drive, 1 in lg o/a.

FSN 5120-595-8197

BIT, SCREWDRIVER: Phillips type cross tip, no. 3 size, ¼ in male hex drive, 1 in lg o/a.

FSN 5120-250-5576

BIT, SCREWDRIVER: Phillips type cross tip, no. 4 size, 5/16 in male hex drive, 1¼ in lg o/a.

FSN 5120-595-8198

BIT, SCREWDRIVER: Reed & Prince cross tip, ¼ in dia, ¼ in male hex drive, 1⅛ in max lg o/a.

FSN 5120-223-6977

BIT, SCREWDRIVER: Reed & Prince cross tip, 5/16 in dia, 5/16 in male hex drive, 1⅜ in max lg o/a.

FSN 5120-223-6975

BIT, SCREWDRIVER: Steel, ¼ in sq drive, ⅝ in socket w, 1½ in lg.

FSN 5120-321-4508

BRUSH, PAINT: Oval, synthetic filament, chisel edge, 1¼ in w, 1/16 in thk, 2⅞ in min exposed lg.

FSN 8020-297-6657

CROWFOOT ATTACHMENT, SOCKET WRENCH: Nonratcheting, open end type, 2 drive openings, ⅜ in drive, 7/16 in wrench opening.

FSN 5120-184-8383

CROWFOOT ATTACHMENT, SOCKET WRENCH: Nonratcheting, open end type, 2 drive openings, ⅜ in drive, ½ in wrench opening.

FSN 5120-184-8384

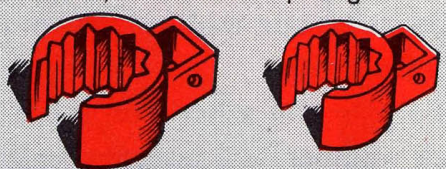
CROWFOOT ATTACHMENT, SOCKET WRENCH: Nonratcheting, open end type, 2 drive openings, ⅜ in drive, 9/16 in wrench opening.

FSN 5120-184-8397

CROWFOOT ATTACHMENT, SOCKET WRENCH: Nonratcheting, 12-point open wall box type, ⅜ in size drive, ⅝ in wrench opening.

FSN 5120-224-7288

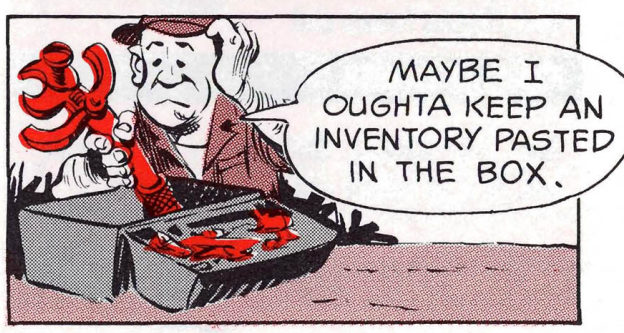
CROWFOOT ATTACHMENT, SOCKET WRENCH: Nonratcheting, 12-point open wall box type, ⅜ in size drive, ¾ in wrench opening.



FSN 5120-189-7898

EXTENSION, SOCKET WRENCH: Flexible, ¼ in sq drive, 6 in lg.

FSN 5120-240-1532



EXTENSION, SOCKET WRENCH: ¼ in sq drive, 2 in lg.

FSN 5120-227-8105

EXTENSION, SOCKET WRENCH: ¼ in sq drive, 6 in lg.

FSN 5120-243-7325

EXTENSION, SOCKET WRENCH: ⅜ in sq drive, 3 in lg.

FSN 5120-243-1689

EXTENSION, SOCKET WRENCH: ⅜ in sq drive, 6 in lg.

FSN 5120-227-8107

EXTENSION, SOCKET WRENCH: ⅜ in sq drive, 9 in lg.

FSN 5120-243-1693

EXTRACTOR, COTTER PIN: 6 in lg o/a.

FSN 5120-222-4284

FACE, HAMMER, INSERTED: Screw-in type, plastic, medium hardness, 1 in dia striking face.

FSN 5120-596-1073

FACE, HAMMER, INSERTED: Screw-in type, plastic, tough, 1 in dia striking face.

FSN 5120-596-1072

FILE, HAND: American pattern, half-rd, double cut, bastard faces, 6 in lg heel to point.

FSN 5110-241-9147

FILE, HAND: American pattern, half-rd type, double cut, smooth faces, or double cut, smooth face, single cut, smooth face, 6 in lg heel to point.

FSN 5110-241-9149

ALL FILES SHOULD BE USED WITH A HANDLE

FILE, HAND: American pattern, rd type, single cut, smooth face, 8 in lg heel to point.

FSN 5110-234-6553

FILE, HAND: American pattern, three-sq type, double cut, smooth faces, 8 in lg heel to point.

FSN 5110-241-9163

FINGER, MECHANICAL: Flexible, 14⅞ in reach.

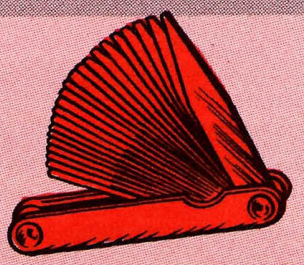
FSN 5120-629-6258

FLASHLIGHT: Battery operated, 2-cell, straight tubular plastic case, fixed focus, w/blackout & red filters.

FSN 6230-269-3034

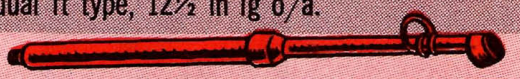
PS MORE

GAGE, THICKNESS: English system, 1 blade group, 26 tapered blades, 3 in lg, ¼ in w at tip, 0.0015 to 0.025 in thk, w/blade lock.



FSN 5210-221-1999

GAGE, TIRE PRESSURE, SELF-CONTAINED: For testing air inflated tires, calibrated 10 to 160 lb rg, 1 lb smallest graduated div, 30 deg angle dual ft type, 12½ in lg o/a.



FSN 4910-204-3170

HAMMER, HAND: Machinist's ballpeen, 8 oz nom head wt, w/fiberglass handle.

FSN 5120-061-8541

HANDLE, FILE, WOOD: Medium size, 1¼ in nom dia o/a, 4½ in nom lg o/a.

FSN 5110-263-0349

HANDLE, FILE, WOOD: Small size, 1 in nom dia o/a, 4 in lg o/a.

FSN 5110-263-0342

HANDLE, SOCKET WRENCH: Brace (speeder) type, double revolving grip, ¼ in size drive end, 14¼ in nom lg o/a.

FSN 5120-288-6539

HANDLE, SOCKET WRENCH: Brace (speeder) type, ⅜ in drive end, 14 in min to 18 in max lg o/a.

FSN 5120-237-4969

HANDLE, SOCKET WRENCH: Hinged (flex) type, ¼ in size drive end, 5⅞ in nom lg o/a.

FSN 5120-221-7960

HANDLE, SOCKET WRENCH: Hinged (flex) type, ⅜ in size drive end, 7 in min to 10 in max lg o/a.

FSN 5120-240-5396

HANDLE, SOCKET WRENCH: Ratchet type, reversible, ¼ in size drive end, 4¼ in lg o/a.

FSN 5120-221-7957

HANDLE, SOCKET WRENCH: Ratchet type, reversible, ⅜ in size drive end, 6 in lg o/a.

FSN 5120-240-5364

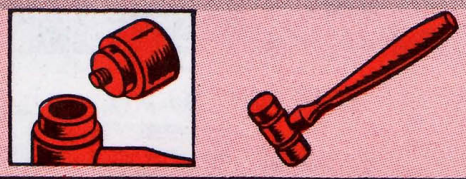
HANDLE, SOCKET WRENCH: Spin (screwdriver) type, ¼ in size drive end, 2⅜ in min to 4 in max lg o/a.

FSN 5120-242-3256

HANDLE, SOCKET WRENCH: Spin type, ⅜ in size drive end, 5½ in nom lg o/a.

FSN 5120-288-6514

HOLDER, INSERTED HAMMER FACE: Screw-in face, 1 in dia face, 9 oz nom wt, w/o inserts.



FSN 5120-903-8546

HOLDER, SCREWDRIVER BIT, FEMALE SQUARE DRIVE: ¼ in nom drive, ¼ in nom hex socket.

FSN 5120-528-2891

HOLDER, SCREWDRIVER BIT, FEMALE SQUARE DRIVE: ⅜ in nom drive, ¼ in nom hex socket.

FSN 5120-528-2892

HOLDER, SCREWDRIVER BIT, FEMALE SQUARE DRIVE: ⅜ in nom drive, 5/16 in nom hex socket.

FSN 5120-331-5502

KEY, SET SOCKET HEAD SCREW: Hex L-type handle, 15 keys, 0.035 to ⅝ in width across flats, with case.

FSN 5120-595-9245

KEY, SOCKET HEAD SCREW: Hex type, nickel plated, L-type handle, 5/16 in across flats, 5 29/32 in min, 6 3/32 in max lg arm lg.

FSN 5120-198-5409

KNIFE, POCKET: 1 cutting blade 2⅜ in lg, w/ screwdriver, wire scraper & clevis.

FSN 5110-240-5943

MIRROR, INSPECTION: 1¼ in dia porm 1/16 in, 7 in min, 9 in max lg.

FSN 5120-448-2455

PADLOCK: Pin tumbler type mechanism, keyed individually, 1½ in w, 1¼ in h, ¾ in shackle clnc, w/clevis & chain.

FSN 5340-682-1508

PLIERS, SLIPJOINT: Angle nose, multiple tongue and groove, 10 in nom size.

FSN 5120-278-0352

PLIERS, SLIPJOINT: Straight nose, combination with cutter, w/o insulated handles, 8 in nom size.

FSN 5120-223-7397

PLIERS, SLIPJOINT: Straight nose, combination with cutter, w/o insulated handles, 10 in nom size.

FSN 5120-223-7398

PLIERS: Duckbill, 8 in nom size.

FSN 5120-595-9519

PLIERS: Lg rd nose (chain) w/cutter, 6 in nom size.

FSN 5120-247-5177

A THIN FILM OF LUBE OR GRAPHITE KEEPS MOVING PARTS MOVING

PS MORE

PLIERS, DIAGONAL CUTTING: 6 in nom size.

FSN 5110-239-8253

PUNCH, CENTER, SOLID: 5/32 in dia at top of tapered point, 3/8 in nom stock dia, 4 in nom lg o/a.

FSN 5120-293-3509

PUNCH, DRIVE PIN: Straight, 1/16 in dia point, 1/2 in nom lg point.

FSN 5120-240-6082

PUNCH, DRIVE PIN: Straight, 1/8 in dia point, 3/4 in nom lg point.

FSN 5120-242-5966

PUNCH, DRIVE PIN: Tapered, 5/16 in dia of point, 2 3/4 in nom taper lg.

FSN 5120-222-1906

REPAIR TOOL, PNEUMATIC TIRE VALVE: For std tire valve.

FSN 5120-308-3809

RETRIEVING TOOL, MAGNETIC: Telescoping type, 16 1/4 in min closed lg, 26 in max lg o/a.

FSN 5120-545-4268

RULE, STEEL, MACHINIST'S: 6 in lg, 0.500 in w, 0.015 in thk, graduated in 1/100, 1/64, 1/32 & 1/10 in units, rh reading.

FSN 5210-971-8827

SCREW STARTER, HAND: Rotating wedge grip, plastic handle, 3/16 in w tip, 1 1/4 in lg blade.

FSN 5120-278-0325

SCREW STARTER, HAND. No. SN9

FSN 5120-832-6221

SCREWDRIVER, CROSS TIP: Phillips tip, plastic handle, no. 1 size tip, 1 in lg blade.

FSN 5120-224-7370

SCREWDRIVER, CROSS TIP: Phillips tip, plastic handle, no. 1 size tip, 3 in lg blade.

FSN 5120-240-8716

SCREWDRIVER, CROSS TIP: Phillips tip, plastic handle, no. 2 size tip, 4 in lg blade.

FSN 5120-234-8913

SCREWDRIVER, CROSS TIP: Phillips tip, plastic handle, no. 3 size tip, 6 in lg blade.

FSN 5120-234-8912

SCREWDRIVER, CROSS TIP: Phillips tip, plastic handle, no. 4 size tip, 8 in lg blade.

FSN 5120-224-7375

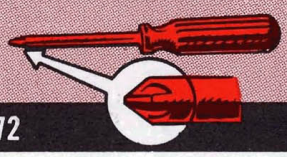
SCREWDRIVER, CROSS TIP: Reed & Prince tip, plastic handle, 3/16 in dia of tip, 3 in lg blade.

FSN 5120-596-0866

SCREWDRIVER, CROSS TIP: Reed & Prince tip, plastic handle, 1/4 in dia of tip, 4 in lg blade.

FSN 5120-237-8173

SCREWDRIVER, CROSS TIP: Reed & Prince tip, plastic handle, 3/16 in dia of tip, 6 in lg blade.



FSN 5120-237-8172

SCREWDRIVER, FLAT TIP: Plastic handle, flared tip, 7/32 in w tip, 1 in lg blade.

FSN 5120-222-8866

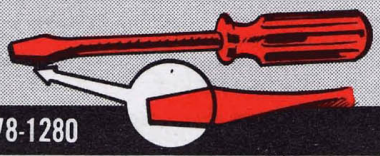
SCREWDRIVER, FLAT TIP: Plastic handle, wrench grip, 1/4 in w flared tip, 4 in lg blade.

FSN 5120-278-1282

SCREWDRIVER, FLAT TIP: Plastic handle, wrench grip 5/16 in w flared tip, 6 in lg blade.

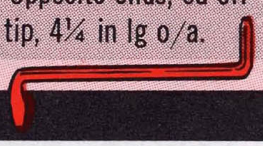
FSN 5120-278-1283

SCREWDRIVER, FLAT TIP: Plastic handle, wrench grip 3/8 in w flared tip, 8 in lg blade.



FSN 5120-278-1280

SCREWDRIVER, OFFSET: Opposite ends, ea offset tipped, 1/4 in w flat tip, 4 1/4 in lg o/a.



FSN 5120-287-2130

SCREWDRIVER, OFFSET: Single offset, single tip ea end, Phillips type cross tip, 4 in lg o/a.

FSN 5120-240-5228

SCRIBER, MACHINIST'S: Double point, adjustable sleeve, 1 straight & 1 regular bent point, 8 to 9 in lg o/a.

FSN 5120-221-7063

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 1/2 in max OD socket end.

FSN 5120-142-5152

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 7/16 in opening.

FSN 5120-935-7439

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 1/2 in opening.

FSN 5120-935-7440

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 9/16 in opening.

FSN 5120-935-7441

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 5/8 in opening.

FSN 5120-935-7442

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 11/16 in opening.

FSN 5120-935-7443

SOCKET, SOCKET WRENCH: Deep style, 3/8 in sq drive, 12-point, 3/4 in opening.

FSN 5120-935-7444

SOCKET, SOCKET WRENCH: Deep style, 1/2 in sq drive, 12-point, 13/16 in opening, 3/4 in min dia of bolt clnc hole.

FSN 5120-914-9120

SOCKET, SOCKET WRENCH: Deep style, 1/2 in sq drive, 12-point, 7/8 in opening, 7/8 in min dia of bolt clnc hole.

FSN 5120-914-9205

PS MORE

SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 3/8 in opening.

FSN 5120-235-5872

SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 7/16 in opening.

FSN 5120-242-3354

SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 1/2 in opening.

FSN 5120-242-3355

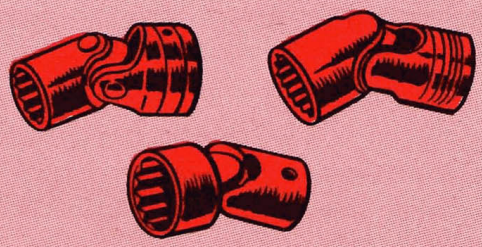
SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 9/16 in opening.

FSN 5120-237-0978

SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 5/8 in opening.

FSN 5120-237-4974

SOCKET, SOCKET WRENCH: Univ joint, 3/8 in sq drive, 12-point, 11/16 in opening.



FSN 5120-237-0979

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 3/16 in opening.

FSN 5120-935-7483

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 1/4 in opening.

FSN 5120-935-7485.

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 9/32 in opening.

FSN 5120-935-7486

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 5/16 in opening.

FSN 5120-935-7487

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 11/32 in opening.

FSN 5120-935-7488

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 3/8 in opening.

FSN 5120-935-7489

SOCKET, SOCKET WRENCH: 1/4 in sq drive, 12-point, 7/16 in opening.

FSN 5120-935-7490

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 3/8 in opening.

FSN 5120-935-7410

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 7/16 in opening.

FSN 5120-935-7411

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 1/2 in opening.

FSN 5120-935-7412

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 9/16 in opening.

FSN 5120-935-7413

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 5/8 in opening.

FSN 5120-935-7414

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 11/16 in opening.

FSN 5120-935-7415

SOCKET, SOCKET WRENCH: 3/8 in sq drive, 12-point, 3/4 in opening.

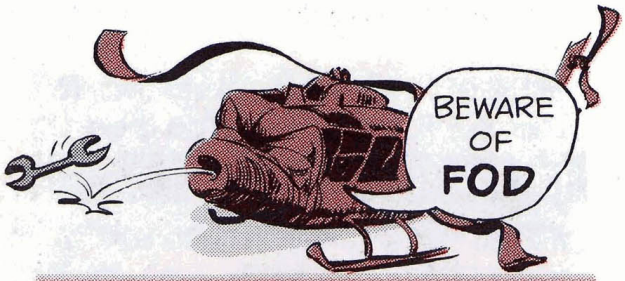
FSN 5120-935-7416

SOCKET, SOCKET WRENCH: ¼ in sq drive, cross shape, ¼ in wrench opening, designed for ¼ in wingnut.

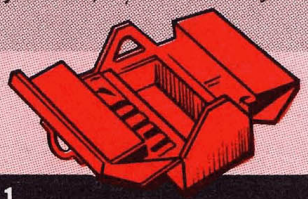
FSN 5120-542-4751

TAPE, MEASURING: Steel, ½ in w, graduated in 1/32, 1/16 & 1 in std units, 72 in max lg, pull-push rewind.

FSN 5210-287-3335

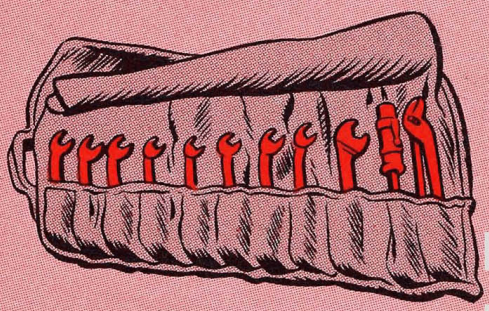


TOOL BOX, PORTABLE: Steel, 18 in lg, 10½ in w, 13 in h excl projections, w/4 fixed trays & nameplate.



FSN 5140-289-8911

TOOL KIT, AUTOMOTIVE ELECTRICAL: 9 double head open end midget wrenches, pliers, screwdriver, & roll. (From FED CAT C5180-IL-A, Jul 69).



FSN 5180-422-8594. Consisting of:

PLIERS, SLIP JOINT: 5 in size.
FSN 5120-540-2464

ROLL, TOOLS AND ACCESSORIES: 11 pockets.
FSN 5140-708-3431

SCREWDRIVER, FLAT TIP: w/external screw gripper.
FSN 5120-293-3183

WRENCH, OPEN END, FIXED: 13/64 & 15/64 in openings, 15 deg angle
FSN 5120-277-8310

WRENCH, OPEN END, FIXED: 13/64 & 15/64 in openings, 60 deg angle.
FSN 5120-277-3414

WRENCH, OPEN END, FIXED: 7/32 & ¼ in openings, 15 deg angle.
FSN 5120-277-8309

WRENCH, OPEN END, FIXED: 7/32 & ¼ in openings, 60 deg angle.
FSN 5120-277-8308

WRENCH, OPEN END, FIXED: 9/32 & 5/16 in openings, 15 deg angle.
FSN 5120-277-8312

WRENCH, OPEN END, FIXED: 9/32 & 5/16 in opening, 60 deg angle.
FSN 5120-277-8311

WRENCH, OPEN END, FIXED: 11/32 & 3/8 in openings, 15 deg angle.
FSN 5120-277-8314

WRENCH, OPEN END, FIXED: 11/32 & 3/8 in openings, 60 deg angle.
FSN 5120-277-8313

WRENCH, OPEN END, FIXED: 7/16 & ½ in opening, 60 deg angle.
FSN 5120-293-1349

UNIVERSAL JOINT, SOCKET WRENCH: ¼ in sq drive.

FSN 5120-243-1686

UNIVERSAL JOINT, SOCKET WRENCH: 3/8 in sq drive.

FSN 5120-224-9215

P.S MORE

WRENCH, BOX: Angular offset double head, 12-point, 5/16 & 3/8 in openings, 4 in min lg o/a.

FSN 5120-184-8602

WRENCH, BOX: Angular offset double head, 12-point, 3/8 & 7/16 in openings, 6 1/2 in min, 8 5/16 in max lg o/a.

FSN 5120-224-3146

WRENCH, BOX: Angular offset double head, 12-point, 1/2 & 9/16 in openings, 7 1/2 in max lg o/a.

FSN 5120-277-3364

WRENCH, BOX: Angular offset double head, 12-point, 5/8 & 11/16 in openings, 9 7/16 in min, 11 in max lg o/a.

FSN 5120-293-0081

WRENCH, BOX: Angular offset double head, 12-point, 3/4 & 7/8 in openings.

FSN 5120-222-1592

WRENCH, BOX: Angular offset double head, 12-point, 13/16 & 7/8 in openings, 11 3/4 in min, 14 in max lg o/a.

FSN 5120-222-1593

WRENCH, BOX: Angular offset double head, 12-point, 15/16 & 1 in openings, 13 3/4 in min, 15 3/4 in max lg o/a.

FSN 5120-204-2670

WRENCH BOX: Chrome plated finish, angular offset double head, 12-point 1/4 and 5/16 in openings, 7 1/4 in nom lg.

FSN 5120-947-3538

WRENCH, CONNECTOR NUT SPARK PLUG: Single open end, T-handle, 3/4 in opening.

FSN 5120-546-5518

WRENCH, CONNECTOR NUT, SPARK PLUG: Single open end, 3/4 in opening, T-handle.

FSN 5120-131-9554

WRENCH, OPEN END, FIXED: Double head, 15 deg angle of head, 75 or 80 deg larger angle of head, 15/64 in opening, 7/64 in thk of head, 3 in min lg o/a.

FSN 5120-184-8444

WRENCH, OPEN END, FIXED: Double head, 15 deg angle of head, 75 or 80 deg larger angle of head, 7/16 in opening, 11/64 in max t[redacted] head, 4 in min lg o/a.

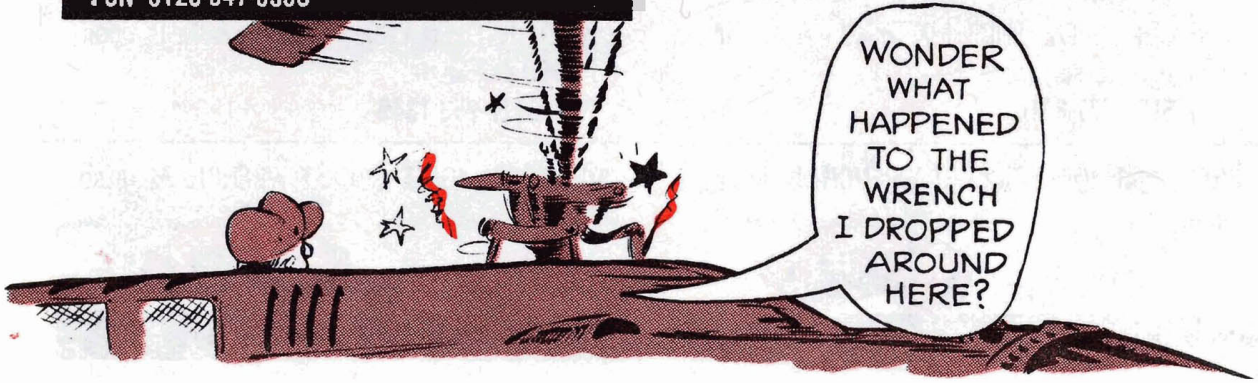
FSN 5120-184-8541

WRENCH, OPEN END, FIXED: Doubl[redacted] head, 15 deg angle, 75 or 80 deg larger a[redacted] in wrench opening, 11/64 in max thk of head, 4 in min lg o/a.

FSN 5120-288-8216

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 75 or 80 deg larger angle, 5/16 in opening, 3/16 in max thk of head, 4 1/4 in min lg o/a.

FSN 5120-184-8543



WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 3/16 & 1/4 in openings, 11/64 in max thk of head, 3 in min lg o/a.

FSN 5120-228-9527

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 5/16 & 3/8 in openings, 13/64 in thk of head, 3 5/8 in min lg o/a.

FSN 5120-277-2307

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 7/16 & 1/2 in openings, 1/4 in max thk of head, 5 in min lg o/a.

FSN 5120-187-7123

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 9/16 & 5/8 in openings, 19/64 in max thk of head, 6 in min lg o/a.

FSN 5120-187-7126

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 11/16 & 25/32 in openings, 11/32 in max thk of head, 7 in min lg o/a.

FSN 5120-184-8558

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 3/4 & 13/16 in openings, 3/8 in thk of head, 8 in min lg o/a.

FSN 5120-187-7129

WRENCH, OPEN END, FIXED: Double head, 15 deg angle, 7/8 & 15/16 in openings, 9 in min lg o/a.

FSN 5120-187-7131

WRENCH, TORQUE: Rigid frame end drive, micrometer adjustable torque mechanism, w/ audible & slip clutch indicating mechanism 1/4 in sq male Drive. 5 to 150 in-lb cap, w/ case.

FSN 5120-821-3440

WRENCH, TORQUE: Rigid frame end drive, micrometer adjustable torque mechanism, w/ audible indication mechanism, 3/8 in sq male drive, 100 to 750 in-lb cap, w/ case.

FSN 5120-821-3441

PEEP HOLE TIP FOR TI

How much is enough?

Like, when you're scrutinizing a control tube to make sure it has a couple-threads screwed into the clevis rod end.

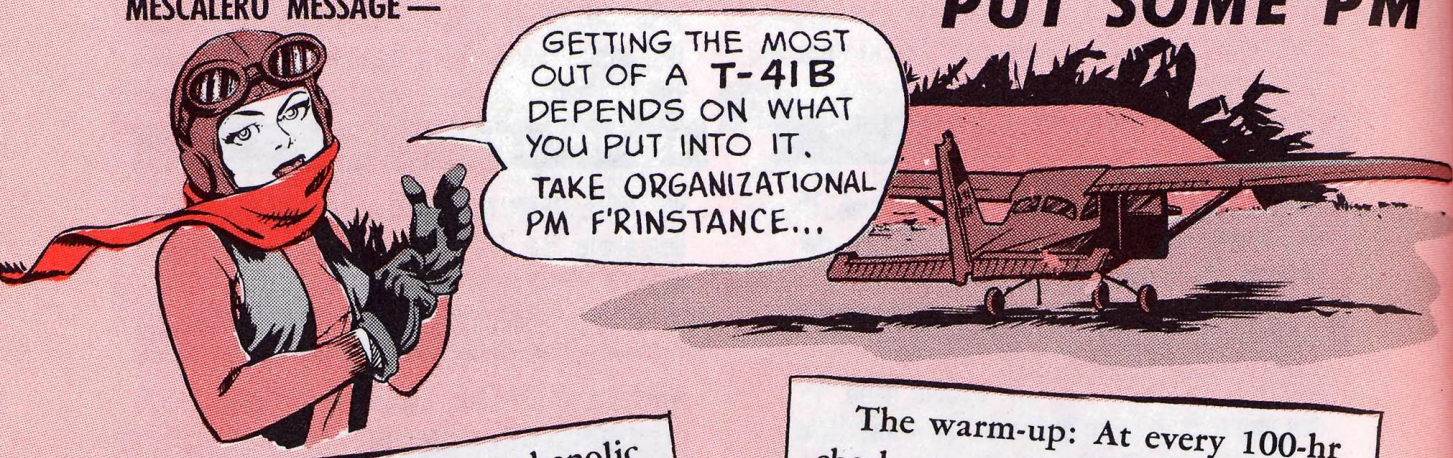
One way you know the control tube's tied in OK on that aircraft . . . say, maybe an O-1 . . . is to see nothing but threads in the witness hole.

If you can't aim your eyeballing through the hole because of close quarters, try sticking a piece of .032 safety wire through it. Blocked from going through means it's still OK.

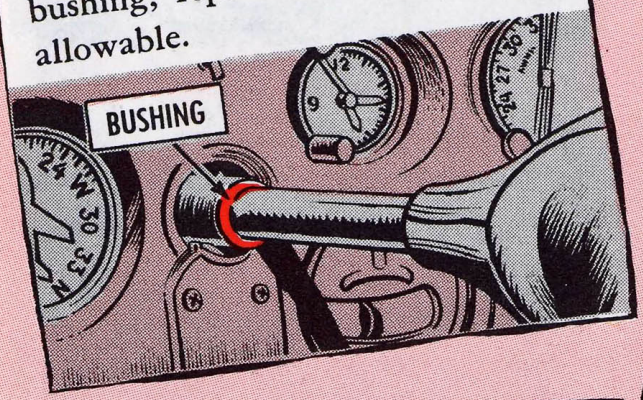
Telling it like it is para 185c(1) and (2) in TM 55-408 (Jun 65).

MESCALERO MESSAGE—

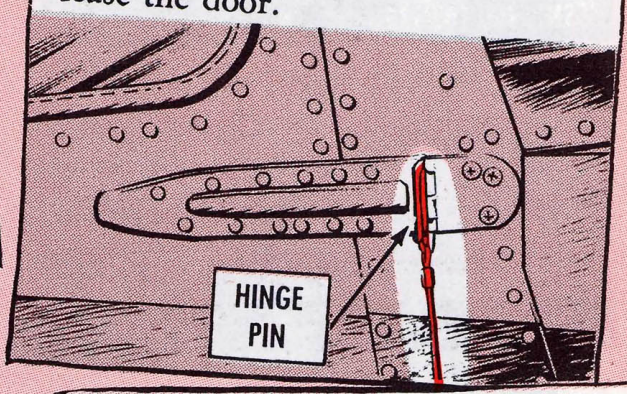
PUT SOME PM



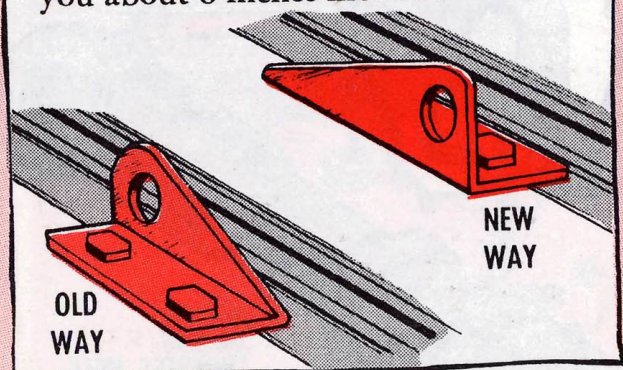
For a starter, when the phenolic bushing around the control yoke allows more than 1/8-in play at the bushing, replace it. Some play is allowable.



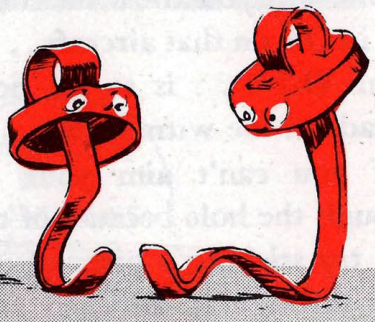
The warm-up: At every 100-hr check remove the door and lube the hinge pins. That lets the emergency door release do its job. Otherwise, the pins bind . . . and it could take more muscle than you've got to release the door.



So now, reverse the lip of the seat belt bracket (on the floor) so that it's toward the door. That way the belt won't hang up on the seat . . . and it'll fit a large type pilot or passenger. The repositioning gives you about 6 inches more belt.



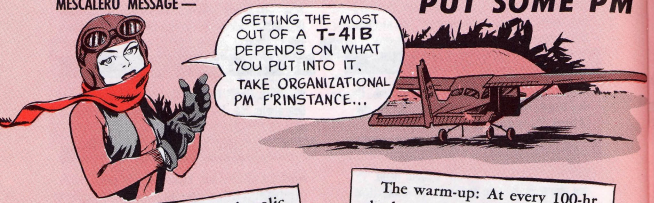
If you've just received a new oil dipstick, be sure it's the same length as the one you're replacing. Some of the replacements have been too long. Be sure, too, that the oil level markings are the same as the old one.



A reminder: When you remove or replace the oil dipstick, hold it in as straight a line as possible. That way you won't bend it . . . which happens.

MESCALERO MESSAGE—

PUT SOME PM IN YOUR TANK



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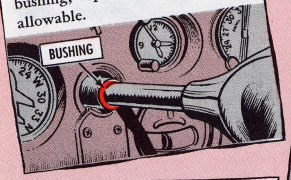

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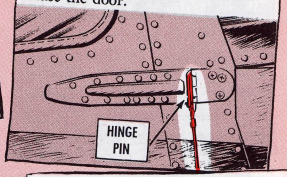

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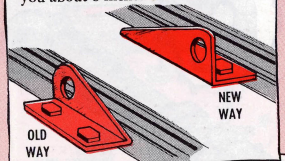

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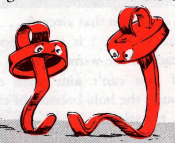

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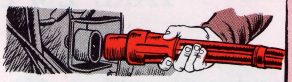
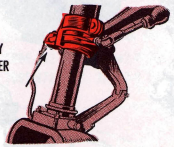
Try it straight 'n easy when you're slipping in the APU CONNECTOR. Pushing it home with anything but light, steady pressure can bung up the bracket.



Here're a few shim tips to keep you straight:

SHIMMY DAMPENER NEED FLUID?



Excessive nosewheel wear, on either side of the tire, is a good sign of worn shims. Which means it's probably time for a re-shim on the strut yoke.

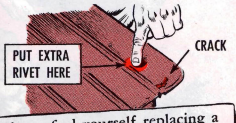
'Nother sign that all is not well with the shims is nosewheel vibration . . . or, ahem, shimmy.

Nosewheel shimmy, too, is a good clue that the shimmy dampener needs hydraulic fluid.

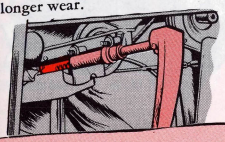
And, uh, still with the shakes, excessive play in the steering arm assembly makes for vibration . . . and clues you that you need shims there, too.

Wind and vibration have an appetite for the plastic strip on the outside edge of the elevator . . . to the point where an additional rivet is needed.

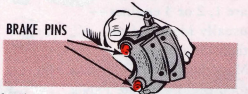
The new rivet keeps the edge cover from cracking at the rear rivet.



If you find yourself replacing a broken parking brake cable rather often—go to the next size up for longer wear.



Remember to lube the brake pins . . . on an as-required basis. The pins rust . . . and could result in



brake freeze up. The pins go into the torque plate—and you can lube 'em with Grease, molybdenum disulfide, FSN 9150-754-2595 . . . which you should have around the shop somewhere.

If the pins have recessed 1/8 inch or so, hold the panic button. There's still plenty of life left in the brake discs.

IN YOUR TANK

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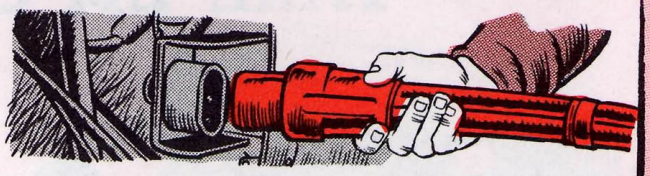

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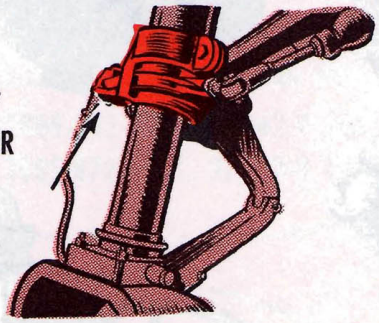

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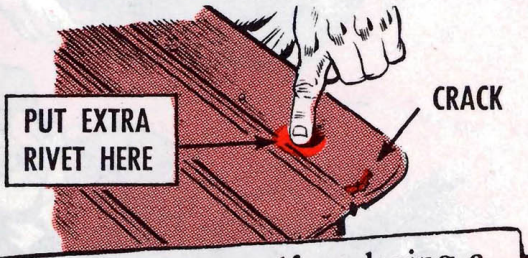

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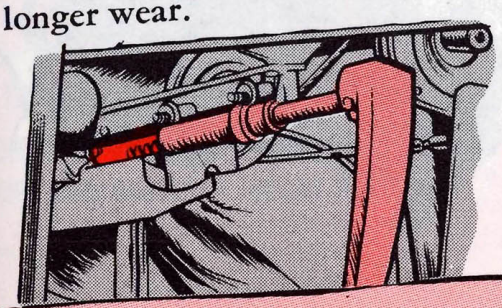

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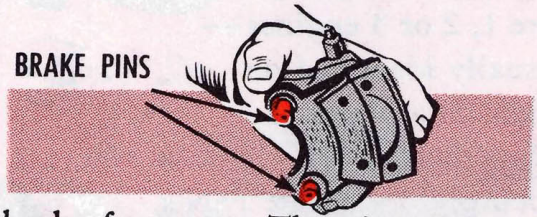

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IF THEY'RE MILITARY STANDARD . . .

TAKE 'EM OFF

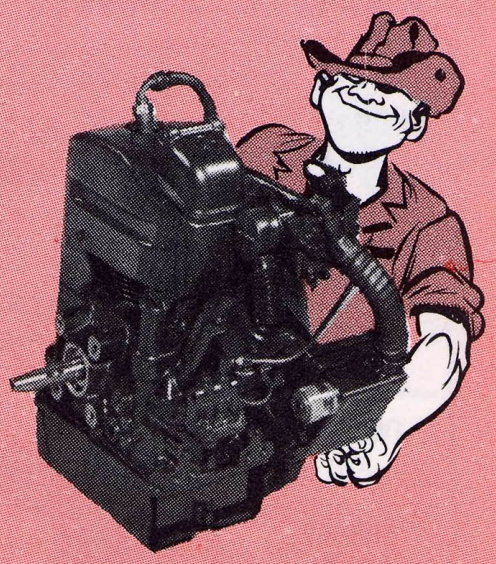
When you're turning in washed-out equipment to the property disposal officer, its Military Standard Engine (if there is one) is not a disposal item.

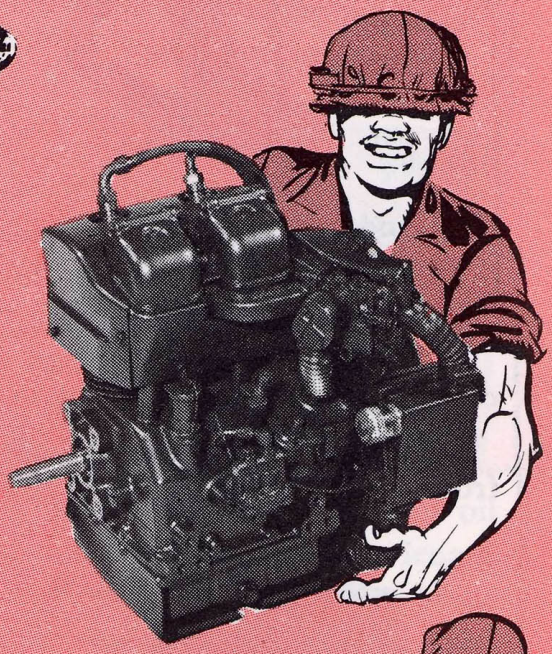
The Military Standard Engine is sent to DS regardless of its condition.

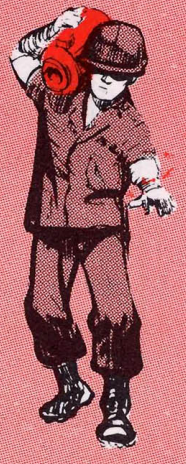
Even if the engine's not repairable, parts may be cannibalized to repair other engines — unserviceable parts get put back on the unserviceable engine before you send it to support.

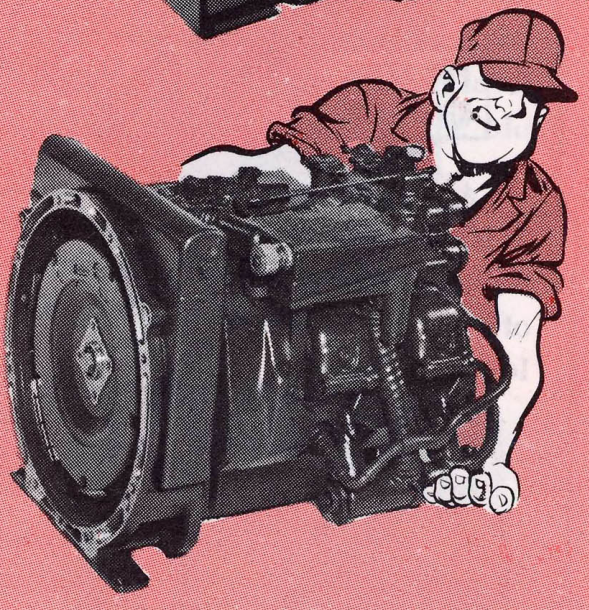
So what's a Military Standard Engine? There are 6 general groups with horsepower ratings of 1-1/2, 3, 6, 10, 14 and 20. Within each group there are 1, 2 or 3 engines — usually identified on their data plates as Mark I, II or III — with a total of 15 separate FSN's.

Engine data plates, with FSN's, are your clue on engines that don't go to the PDO.









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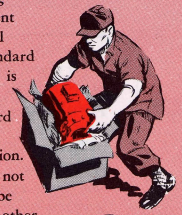

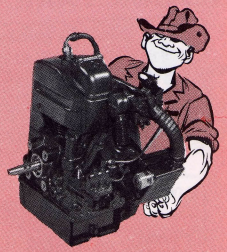

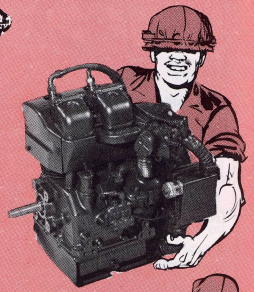

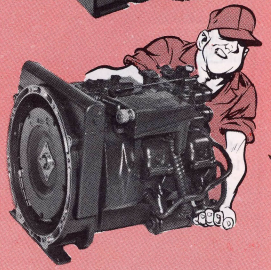

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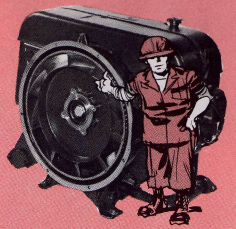

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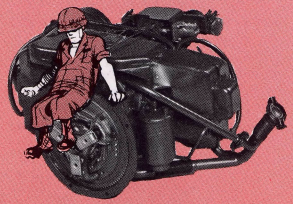

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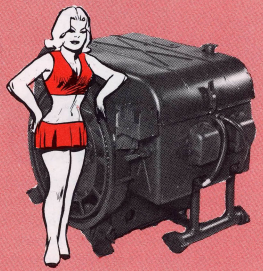

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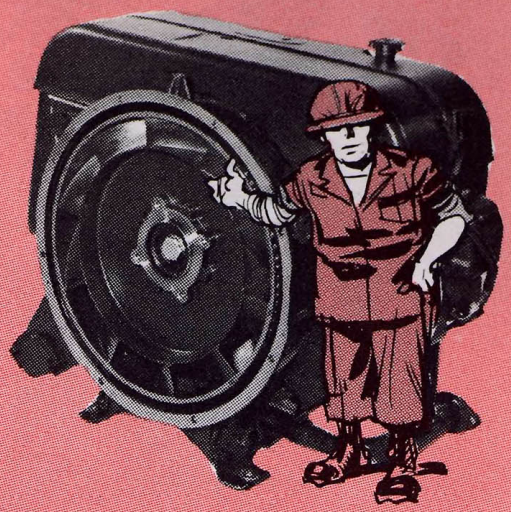

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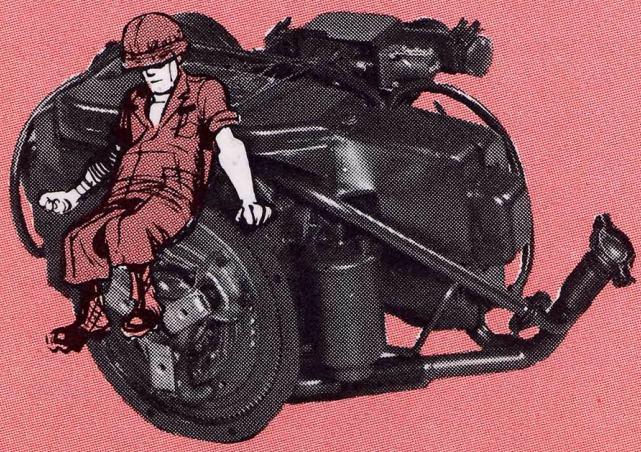

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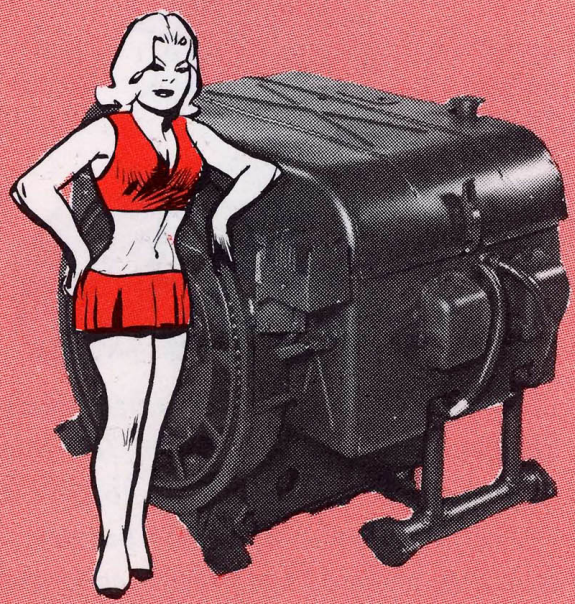

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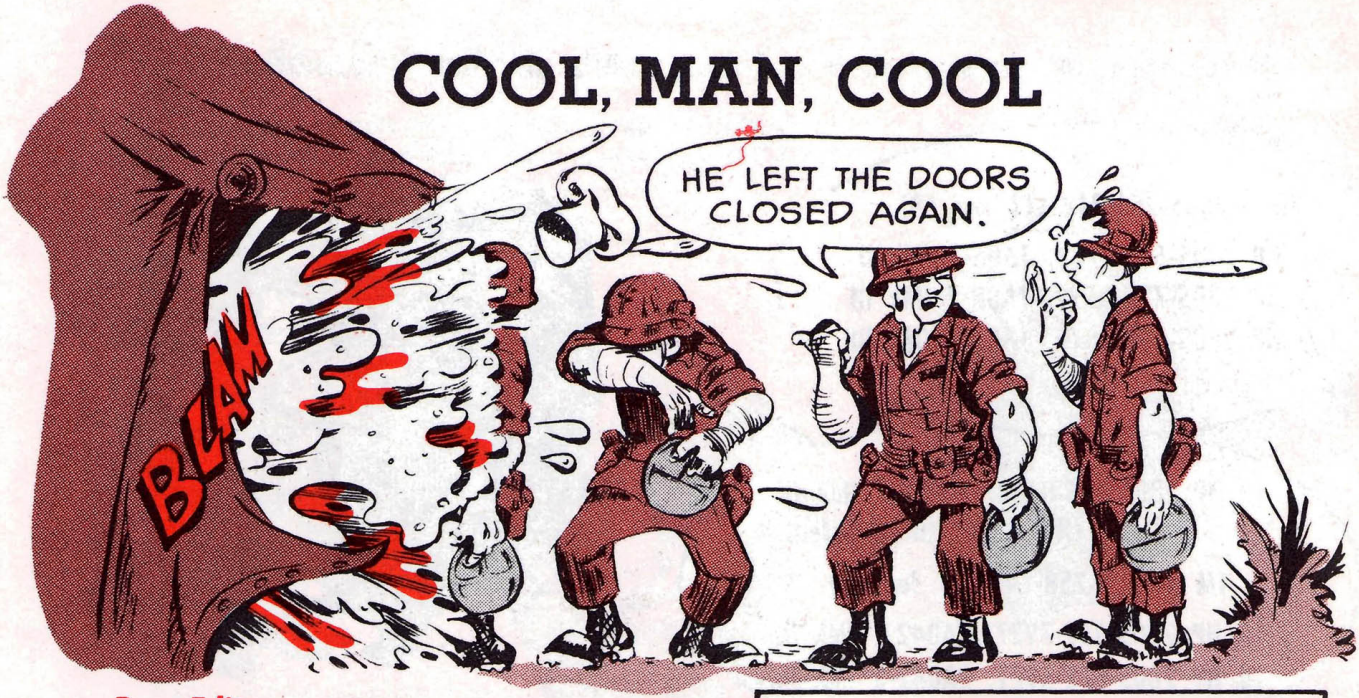
COOL, MAN, COOL

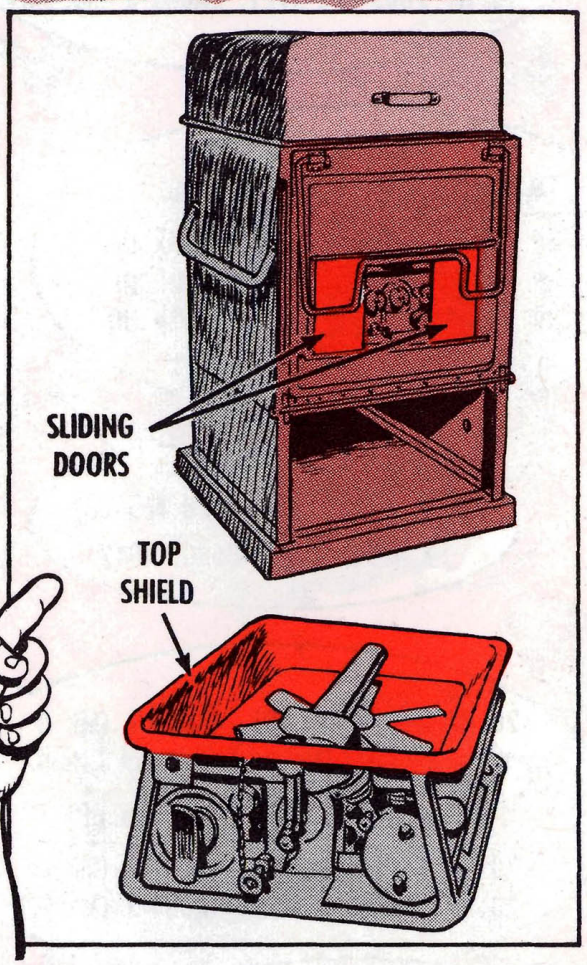


Dear Editor,

There are two things I've noticed about our M2 burner unit when it's placed in the top or middle section of the cabinet. When the small doors in the cabinet are closed the pressure will build up fast.

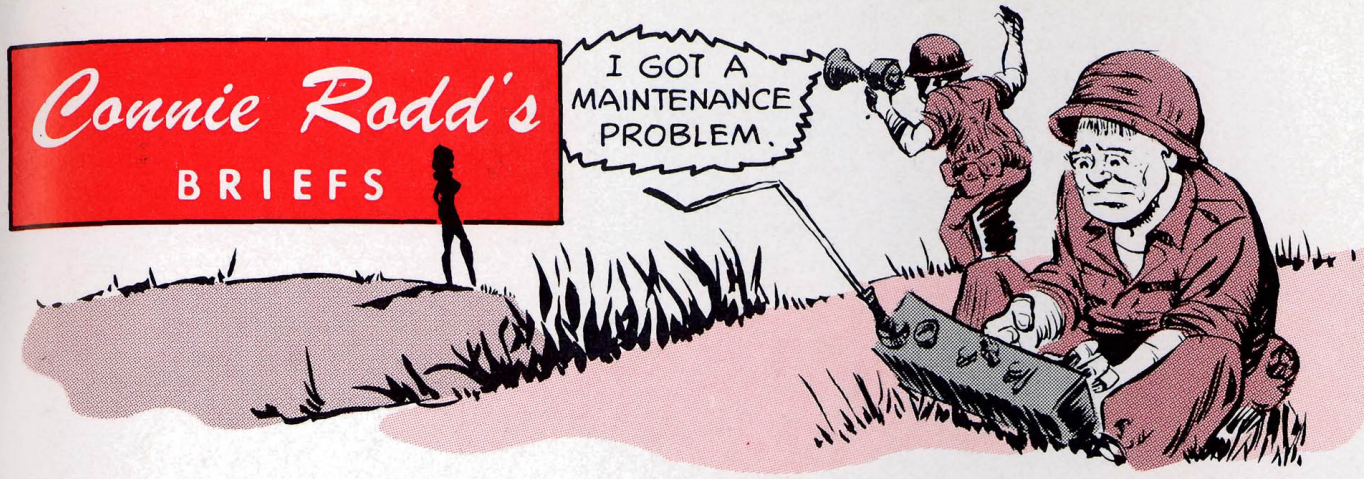
Most cooks think the top shield is there to help keep the rest of the unit clean. It does that, but if it's removed and the burner's lit, the fuel tanks will absorb heat and raise the pressure into the danger zone. This is especially true when the unit's in the top position.

SP5 J. L. S.



(Ed Note—Glad that you brought those two points up. The small doors were designed so you can get to the burner controls, so you can see the pressure gage, and last but not least, to give air circulation to keep down the temperature around the fuel tanks. The burner should **never** *be operated with the small doors closed in front of the burner controls, and* **never** *without the top shield.)*

Connie Rodd's BRIEFS



About Your AN/GRC-50

Oops! We dropped a line on that AN/GRC-50(V) radio set article in PS 201. So, just before the last sentence on page 38, add: "Then, rotate the mast to the point midway between the marks on the base plate." You do that just before you lock the mast in position.

Supply Companions

You supply guys will want to get acquainted with SB 700-25 (Jun 69), Consolidated Interchangeable and Substitute Item List (CISIL). It's a companion to the Federal Supply Catalog Management Data List (C-ML-A). Your C-ML-A will clue you as to whether you should look for an interchangeable or a substitute item in the CISIL by means of an I & S indicator code.

Hot Commo Tips

You signal types plagued by hot weather commo problems will be happy to hear about a new, 33-minute training film, TF 11-3963, "Preserving and Protecting Electronics Equipment in the Tropics." Your unit can get it from your local audio-visual support center.

New FSN For Audio Caps

The dumbbell-shaped audio cap for your RT-505, RT-246, RT-524 and RT-841 receiver-transmitters is wearing a new FSN these days. You can get it with: Cover, Electrical Connector, FSN 5935-973-1732.

M11 Scoop

Please pass the word—The M11 portable decon is for deconning equipment only. Never aim it at human types or clothing. The stuff in the M11 will burn when it's sprayed on an open flame. So, make sure the M11 is never used as a fire extinguisher.

No Breather on 5/4

Forget what you've heard about a breather valve bein' needed on the transmission cover of your M715 or M725 1¼-ton vehicle. That breather was only on a few early models. Now your 5-quarter's transmission is vented to the engine air cleaner.

Ammo Containers

Supply-Types, note — SB 725-12-2 (Jan 69) gives the scoop on reporting NX storage and shipping containers.

Would You Stake Your Life *right now* on the Condition of Your Equipment?

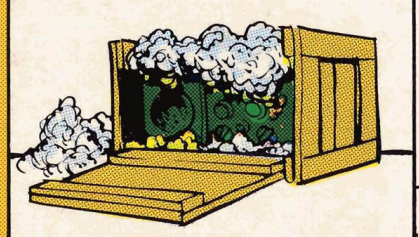
Handle 'em like

That's the way to handle equipment and parts going back for repair.

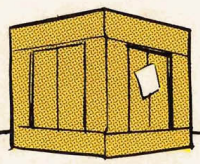
Use the crate it came in or use boxes and padding you've saved... corrugated board, plastic foam and such.

WHEN YOU SHIP 'EM—PROTECT 'EM.

Pack 'em well



Crate 'em



Ride 'em gentle on a salvage mattress